

# The Technology Review

Volume XII.

October, 1910

Number 4

---

## Contents

	PAGE
FRONTISPIECE: THE "FROUDE."	
LOG OF THE "FROUDE" . . . . .	419
NOMINEES OF THE ALUMNI COUNCIL . . . . .	424
WILLIAM HARMON NILES . . . . .	425
IMPRESSIVE REGISTRATION FIGURES . . . . .	428
THE TECHNOLOGY COSMOPOLITAN CLUB . . . . .	431
SUMMER SCHOOL OF INDUSTRIAL CHEMISTRY, . . . . .	433
NEW OPEN-AIR DINING-ROOM . . . . .	435
SEVENTH MEETING OF THE ALUMNI COUNCIL, . . . . .	437
THE DUPONT CUP . . . . .	440
NEWTON ALUMNI OFFER SCHOLARSHIP . . . . .	441
THE "REVIEW" TO BECOME A MONTHLY . . . . .	443
ECHOES FROM ALUMNI CENTRES . . . . .	444
AMONG THE UNDERGRADUATES . . . . .	457
TECH MEN IN THE PUBLIC EYE . . . . .	460

(Continued on next page)

# technology review

Published by MIT

This PDF is for your personal, non-commercial use only.  
Distribution and use of this material are governed by copyright law.  
For non-personal use, or to order multiple copies please email  
[permissions@technologyreview.com](mailto:permissions@technologyreview.com).



## Contents

	PAGE
DEPARTMENT NEWS OF INTEREST . . . . .	464
NEW MODERN LANGUAGE REQUIREMENTS . .	477
NEW ASSISTANTS . . . . .	478
PROFESSOR LELAND TO GO TO PACIFIC COAST,	479
CO-OPERATIVE COLLEGIATE EDUCATION . . .	480
NEW ASSOCIATE MEMBERS . . . . .	481
FOUR THOUSAND COPIES OF THE "REVIEW" .	482
FOR IMPROVING TECH FIELD . . . . .	483
MISCELLANEOUS CLIPPINGS . . . . .	484
BOOK REVIEW . . . . .	493
NEWS FROM THE CLASSES . . . . .	495

ALUMNI ASSOCIATION  
OF THE  
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

---

OFFICERS

*President*, A. F. BEMIS, '93 (term expires in 1910).

*Vice-Presidents*, { FRANK E. SHEPARD, '87 (term expires in 1910).  
                          { FRANKLIN W. HOBBS, '89 (term expires in 1911).

*Secretary-Treasurer*, WALTER HUMPHREYS, '97 (term expires in 1910).

*Executive Committee*

THE PRESIDENT, VICE-PRESIDENT, and SECRETARY-TREASURER.

WILLIAM S. JOHNSON, '89 (term expires in 1910).

CHARLES F. PARK, '92 (term expires in 1910).

WALTER E. PIPER, '94 (term expires in 1911).

GEORGE W. SWETT, '03 (term expires in 1911).

*Representatives at Large*

For One Year

C. R. CROSS, '70.

CHARLES T. MAIN, '76.

GEORGE F. SWAIN, '77.

J. P. TOLMAN, '68.

A. D. LITTLE, '85.

For Two Years

CHARLES HAYDEN, '90.

ALLAN W. ROWE, '01.

EBEN S. STEVENS, '68.

STOUGHTON WALKER, '87.

GEORGE V. WENDELL, '92.

*Committee on Permanent Funds*

ROBERT H. RICHARDS, '68, to serve until the annual meeting in 1913.

JAMES P. MUNROE, '82, to serve until the annual meeting in 1912.

FRANCIS C. GREEN, '95, to serve until the annual meeting in 1911.

*Advisory Council on Athletics*

J. ARNOLD ROCKWELL, '96 (term expires in 1910).

Dr. ALLAN W. ROWE.

J. L. BATCHELDER, '90 (term expires in 1912).

*Trustee of the William Barton Rogers Scholarship Fund*

ROBERT H. RICHARDS, '68.

*Walker Memorial Committee*

HARRY W. TYLER, '84, *Chairman*.

CHARLES M. BAKER, '78, *Treasurer*.

CHARLES-EDWARD A. WINSLOW, '98, *Secretary*.

ROBERT H. RICHARDS, '68.

THOMAS HIBBARD, '75.

EVERETT MORSS, '85.

WILLIAM B. THURBER, '89.

JOHN L. BATCHELDER, '90.

ALBERT F. BEMIS, '93.

*Committee on Publication of The Technology Review*

WALTER BRADLEE SNOW, '82.

ARTHUR AMOS NOYES, '86.

WALTER HUMPHREYS, '97.

FREDERIC H. FAY, '93

ISAAC WHITE LITCHFIELD, '85, *Editor*.

*Income Fund Committee*

EVERETT MORSS, '85, *Chairman*.

I. W. LITCHFIELD, '85, *Secretary*.

FREDERIC H. FAY, '93.

CHARLES A. STONE, '88.

S. J. MIXTER, '75.

E. G. THOMAS, '87.

CHARLES M. SPOFFORD, '93.

LEONARD P. WOOD, '01.

*Term Members of the Corporation*

Term expires March, 1911

T. COLEMAN DUPONT.

CHARLES T. MAIN.

FREDERICK W. WOOD.

Term expires March, 1912

GEORGE W. KITTREDGE.

FRANK G. STANTIAL.

GEORGE E. HALE.

Term expires March, 1913

JAMES W. ROLLINS, Jr.

EVERETT MORSS.

ARTHUR T. BRADLEE.

Term expires March, 1914

WALTER B. SNOW.

THEODORE W. ROBINSON.

CHARLES R. RICHARDS.

Term expires March, 1915

EDWARD CUNNINGHAM, '91.

FRANK W. ROLLINS, '81.

EDWIN S. WEBSTER, '88.

*Committee on Aeronautics*

HENRY HOWARD, '89, *Chairman*.  
HENRY MORSS, '93.  
Hon. BUTLER AMES, '96.

*Committee on Student Welfare*

A. A. NOYES, '86, *Chairman*.  
HOWARD L. COBURN, '98.  
G. DEW. MARCY, '05.

*Committee on Gas Engineering*

H. J. CONANT, '87, *Chairman*.  
PAUL WINSOR, '86.  
A. L. CLOUGH, '91.

*Committee on Refrigerating Engineering*

H. M. HAVEN, '95.  
CONRAD YOUNG, '96.

*Committee on Foundation of Scholarships*

Prof. C.-E. A. WINSLOW, '98, *Chairman*.  
JAMES P. MUNROE, '82.  
LINWOOD O. TOWNE, '78.

*Committee on Research Laboratory of Engineering*

CALVIN W. RICE, '90, *Chairman*.  
WILLIAM R. WEBSTER, '76.  
WILFRED LEWIS, '75.

*Tech Show Advisory Council*

M. L. EMERSON, '04.  
I. W. LITCHFIELD, '85.

*Committee on Fire Insurance Engineering*

GORHAM DANA, '92, *Chairman*.  
JOHN R. FREEMAN, '76.  
CHARLES L. NORTON, '93.

*Committee on Musical Affairs*

GEORGE B. GLIDDEN, '93, *Chairman*.  
HARRY S. MORK, '99.  
MAURICE R. SCHARFF, '09.

*Committee on Finance.*

WILLIAM S. JOHNSON, '89, *Chairman*.  
I. W. LITCHFIELD, '85.  
C. F. PARK, '92.  
G. E. SWETT, '03.

## COUNCIL OF THE ALUMNI ASSOCIATION

### Officers of the Association:—

*President*, A. F. BEMIS, '93.  
*Vice-Presidents*, FRANK E. SHEPARD, '87, and FRANKLIN W. HOBBS, '89.  
*Secretary-Treasurer*, WALTER HUMPHREYS, '97.  
*Executive Committee*, { WILLIAM S. JOHNSON, '89.      WALTER E. PIPER, '94.  
                                       { CHARLES F. PARK, '92.      GEORGE W. SWETT, '03.

### Five latest living ex-Presidents:—

SAMUEL J. MIXTER, '75.      EVERETT MORSS, '85.  
 WALTER B. SNOW, '82.      FRANK L. LOCKE, '86.  
 EDWIN S. WEBSTER, '88.

### Representatives at large:—

<i>For one year</i>	<i>For two years</i>
C. R. CROSS, '70.	CHARLES HAYDEN, '90.
A. D. LITTLE, '85.	ALLAN W. ROWE, '01.
CHARLES T. MAIN, '76.	EBEN S. STEVENS, '68.
GEORGE F. SWAIN, '77.	STOUGHTON WALKER, '87.
J. P. TOLMAN, '68.	GEORGE V. WENDELL, '92.

### Class representatives:—

'68, ROBERT H. RICHARDS.	'88, ARTHUR T. BRADLEE.
'69, HOWARD A. CARSON.	'89, JASPER WHITING.
'70, E. K. TURNER.	'90, WILLIAM Z. RIPLEY.
'71, E. W. ROLLINS.	'91, CHARLES GARRISON.
'72,	'92, LEONARD METCALF.
'73, F. H. WILLIAMS.	'93, FREDERIC H. FAY.
'74, GEORGE H. BARRUS.	'94, S. C. PRESCOTT.
'75, THOMAS HIBBARD.	'95, ANDREW D. FULLER.
'76, C. T. MAIN.	'96, J. A. ROCKWELL.
'77, R. A. HALE.	'97, C. W. BRADLEE.
'78, C. M. BAKER.	'98, W. HOLLIS GODFREY.
'79, E. C. MILLER.	'99, H. J. SKINNER.
'80, GEORGE H. BARTON.	'00, N. J. NEALL.
'81, JOHN DUFF.	'01, ROBERT L. WILLIAMS.
'82, JAMES P. MUNROE.	'02, C. A. SAWYER, Jr.
'83, HARVEY S. CHASE.	'03, F. A. OLMSTED.
'84, HARRY W. TYLER.	'04, M. L. EMERSON.
'85, I. W. LITCHFIELD.	'05, G. DEW. MARCY.
'86, A. A. NOYES.	'06, JOHN J. DONOVAN.
'87, E. G. THOMAS.	'07, LAWRENCE ALLEN.
	'08, H. T. GERRISH.

### Local societies with representation on the Council:—

TECHNOLOGY CLUB OF THE MERRIMACK VALLEY, John C. Chase, '74.  
 TECHNOLOGY CLUB OF NEW YORK, Francis C. Green, '95.  
 NORTH-WESTERN ASSOCIATION, M. I. T., I. W. Litchfield, '85.  
 PITTSBURG TECHNOLOGY ASSOCIATION, Harry A. Rapelye, '08.  
 TECHNOLOGY CLUB OF PHILADELPHIA, Percy E. Tillson, '06.  
 WASHINGTON SOCIETY OF THE M. I. T., I. W. Litchfield, '85.  
 TECHNOLOGY CLUB OF MILWAUKEE, I. W. Litchfield, '85.  
 M. I. T. CLUB OF CENTRAL NEW YORK, James P. Barnes, '05.  
 THE CINCINNATI M. I. T. CLUB, John A. Hildabolt, '75.  
 TECHNOLOGY CLUB OF NORTHERN OHIO, John E. Kreps, '87.  
 TECHNOLOGY CLUB OF RHODE ISLAND, E. B. Homer, '85.

Other local societies not yet appointed a representative on the Council:—

TECHNOLOGY CLUB OF BUFFALO.  
TECHNOLOGY CLUB OF CENTRAL PENNSYLVANIA.  
TECHNOLOGY CLUB OF THE CONNECTICUT VALLEY.  
DETROIT ASSOCIATION OF THE M. I. T.  
TECHNOLOGY CLUB OF HARTFORD, CONN.  
INLAND EMPIRE ASSOCIATION OF THE M. I. T.  
TECHNOLOGY CLUB OF MINNESOTA.  
TECHNOLOGY CLUB OF NEW BEDFORD.  
TECHNOLOGY ASSOCIATION OF NORTHERN CALIFORNIA.  
TECHNOLOGY ASSOCIATION OF OREGON.  
TECHNOLOGY CLUB OF PUGET SOUND.  
ROCKY MOUNTAIN TECHNOLOGY CLUB.  
TECHNOLOGY CLUB OF THE SOUTH.  
TECHNOLOGY CLUB OF SOUTHERN CALIFORNIA.  
VERMONT TECHNOLOGY ASSOCIATION.  
BROOKLINE TECHNOLOGY ASSOCIATION.



## CLASS SECRETARIES

- ROBERT HALLOWELL RICHARDS, '68  
Massachusetts Institute of Technology,  
Boston.
- HOWARD ADAMS CARSON . . . '69  
79 Glenwood Street, Malden, Mass.
- CHARLES ROBERT CROSS . . . '70  
Massachusetts Institute of Technology,  
Boston.
- EDWARD WARREN ROLLINS . . '71  
Dover, N.H.
- CALVIN FRANK ALLEN . . . '72  
Massachusetts Institute of Technology,  
Boston.
- SAMUEL EVERETT TINKHAM . . '73  
126 Thornton Street, Roxbury, Mass.
- CHARLES FRENCH READ . . . '74  
Old State House, Boston, Mass.
- EDWARD A. W. HAMMATT . . . '75  
Hyde Park, Mass.
- JOHN RIPLEY FREEMAN . . . '76  
815 Banigan Building, Providence, R.I.
- RICHARD AUGUSTUS HALE . . '77  
Essex Company, Lawrence, Mass.
- EDWIN CHILD MILLER . . . '79  
Wakefield, Mass.
- GEORGE HUNT BARTON . . . '80  
16 Lexington Avenue, Cambridge, Mass.
- FRANK ELDEN CAME . . . '81  
512 Guy Street, Montreal, P.Q.
- WALTER BRADLEE SNOW . . . '82  
170 Summer Street, Boston, Mass.
- HARVEY STUART CHASE . . . '83  
84 State Street, Boston, Mass.
- HARRY W. TYLER . . . '84  
Massachusetts Institute of Technology,  
Boston.
- ISAAC WHITE LITCHFIELD . . '85  
Mass. Institute of Technology, Boston.
- ARTHUR GRAHAM ROBBINS . . '86  
Mass. Institute of Technology, Boston.
- EDWARD GALBRAITH THOMAS, '87  
36 High Street, Brookline, Mass.
- WILLIAM GAGE SNOW . . . '88  
24 Milk Street, Boston, Mass.
- WALTER H. KILHAM . . . '89  
9 Park Street, Boston, Mass.
- GEORGE L. GILMORE . . . '90  
Lexington, Mass.
- HOWARD CARLETON FORBES . . '91  
88 Broad Street, Boston, Mass.
- W. SPENCER HUTCHINSON . . '92  
1235 Morton Street, Mattapan, Mass.
- FREDERIC HAROLD FAY . . . '93  
60 City Hall, Boston, Mass.
- SAMUEL CATE PRESCOTT . . . '94  
Mass. Institute of Technology, Boston.
- GEORGE A. ROCKWELL . . . '95  
101 Tremont Street, Boston, Mass.
- CHARLES E. LOCKE . . . '96  
Mass. Institute of Technology, Boston.
- JOHN ARTHUR COLLINS, Jr. . . '97  
67 Thorndyke Street, Lawrence, Mass.
- ERNEST F. RUSS . . . '98  
70 High Street, Boston, Mass.
- HERVEY JUDSON SKINNER . . '99  
93 Broad Street, Boston, Mass.
- NEWITT J. NEALL . . . '00  
12 Pearl Street, Boston, Mass.
- ROBERT L. WILLIAMS . . . '01  
19 Pleasant Street, Cambridge, Mass.
- FREDERICK HUSTON HUNTER . . '02  
75 Park Street, West Roxbury, Mass.
- FREDERIC ARTHUR OLMSTED . . '03  
93 Broad Street, Boston, Mass.
- EVERETT OSGOOD HILLER . . . '04  
Care Pneumatic Scale Corporation, Norfolk  
Downs, Mass.
- ADDISON F. HOLMES . . . '04  
Res. Secretary, 41 Ruggles Street, Boston,  
Mass.
- GROSVENOR DEWITT MARCY, '05  
246 Summer Street, Boston, Mass.
- RALPH R. PATCH . . . '06  
15 Lincoln Street, Stoneham, Mass.
- BRYANT NICHOLS . . . '07  
143 Garland Street, Everett, Mass.
- JOHN T. TOBIN . . . '08  
Care of F. F. Harrington, Bridge Engineer,  
Virginian Ry. Co., Norfolk, Va.
- RUDOLPH B. WEILER . . . '08  
Res. Secretary, 5315 Washington Avenue,  
Chicago, Ill.
- CARL GRAM . . . '09  
1609 St. Louis Avenue, East St. Louis, Ill.
- MAURICE R. SCHARFF . . . '09  
Res. Secretary, M. I. T., Boston, Mass.
- JOHN MOXCEY FITZWATER . . '10  
119 Henry Street, Brooklyn, N.Y.
- G. BERGEN REYNOLDS . . . '10  
Res. Secretary, American Optical Company,  
Southbridge, Mass.

## LOCAL ALUMNI ASSOCIATIONS

- NORTH-WESTERN ASSOCIATION OF THE M. I. T., Meyer J. Sturm ('96), Secretary, S. 704, 84 La Salle Street, Chicago, Ill.
- ROCKY MOUNTAIN TECHNOLOGY CLUB, Maurice Bigelow Biscoe ('93), Secretary, 25 East 18th Street, Denver, Col.
- TECHNOLOGY CLUB OF THE CONNECTICUT VALLEY, Edmund Parsons Marsh ('89), Secretary, P.O. Box 791, Springfield, Mass.
- TECHNOLOGY CLUB OF NEW YORK, Francis C. Green ('95), Secretary, 17 Gramercy Park.
- TECHNOLOGY CLUB OF PHILADELPHIA, Percy Ethan Tillson ('06), Secretary, 223 So. 61st Street, Philadelphia, Pa.
- PITTSBURG TECHNOLOGY ASSOCIATION, Waldso Turner ('05), Secretary, 1174 Frick Building Annex, Pittsburg, Pa.
- TECHNOLOGY CLUB OF BUFFALO, W. H. Watkins ('95), Secretary, P.O. Drawer 57, Buffalo, N.Y.
- WASHINGTON SOCIETY OF THE M. I. T., Amasa M. Holcombe ('04), Secretary, 1325 Vermont Avenue, N.W., Washington, D.C.
- THE CINCINNATI M. I. T. CLUB, Herman W. Lackman ('05), Secretary, 819 W. 6th Street, Cincinnati, Ohio.
- TECHNOLOGY CLUB OF THE MERRIMACK VALLEY, John Arthur Collins, Jr. ('97), Secretary, 67 Thorndyke Street, Lawrence, Mass.
- TECHNOLOGY CLUB OF RHODE ISLAND, William C. Dart ('91), Secretary, 148 West River Street, Providence, R.I.
- TECHNOLOGY CLUB OF NEW BEDFORD, MASS., Charles Frederic Wing, Jr. ('99), Secretary, 36 Purchase Street, New Bedford, Mass.
- TECHNOLOGY CLUB OF HARTFORD, CONN., George William Baker ('92), Secretary, Box 983, Hartford, Conn.
- TECHNOLOGY CLUB OF MINNESOTA, Jacob Stone, Jr. ('99), Secretary, 1029 Security Bank Building, Minneapolis, Minn.
- TECHNOLOGY CLUB OF NORTHERN OHIO, Sidney Young Ball ('03), Secretary, 1847 East 97th Street, Cleveland, Ohio.
- TECHNOLOGY CLUB OF THE SOUTH, Frank Wyman Crosby ('90), Secretary, 501-504 Denegre Building, New Orleans, La.
- TECHNOLOGY CLUB OF CENTRAL PENNSYLVANIA, Stephen Badlam ('00), Secretary, Box 183, Steelton, Pa.
- TECHNOLOGY ASSOCIATION OF NORTHERN CALIFORNIA, Howard Coburn Blake ('06), Secretary, 926 6th Street, Sacramento, Cal.
- TECHNOLOGY CLUB OF SOUTHERN CALIFORNIA, L. A. Parker ('06), Secretary, 764 Pacific Electric Building, Los Angeles, Cal.
- M. I. T. CLUB OF CENTRAL NEW YORK, H. N. Burhans ('07), Secretary, 227 McLennan Avenue, Syracuse, N.Y.
- INLAND EMPIRE ASSOCIATION OF THE M. I. T., Philip F. Kennedy ('07), Secretary, 01129 Hamilton Street, Spokane, Wash.



TECHNOLOGY ASSOCIATION OF OREGON, Antoine Gilbert Labbé ('07), Secretary, 227½  
Washington Street, Portland, Ore.

TECHNOLOGY CLUB OF PUGET SOUND, L. A. Wallon ('04), Secretary, The Seattle Electric  
Company, Seattle, Wash.

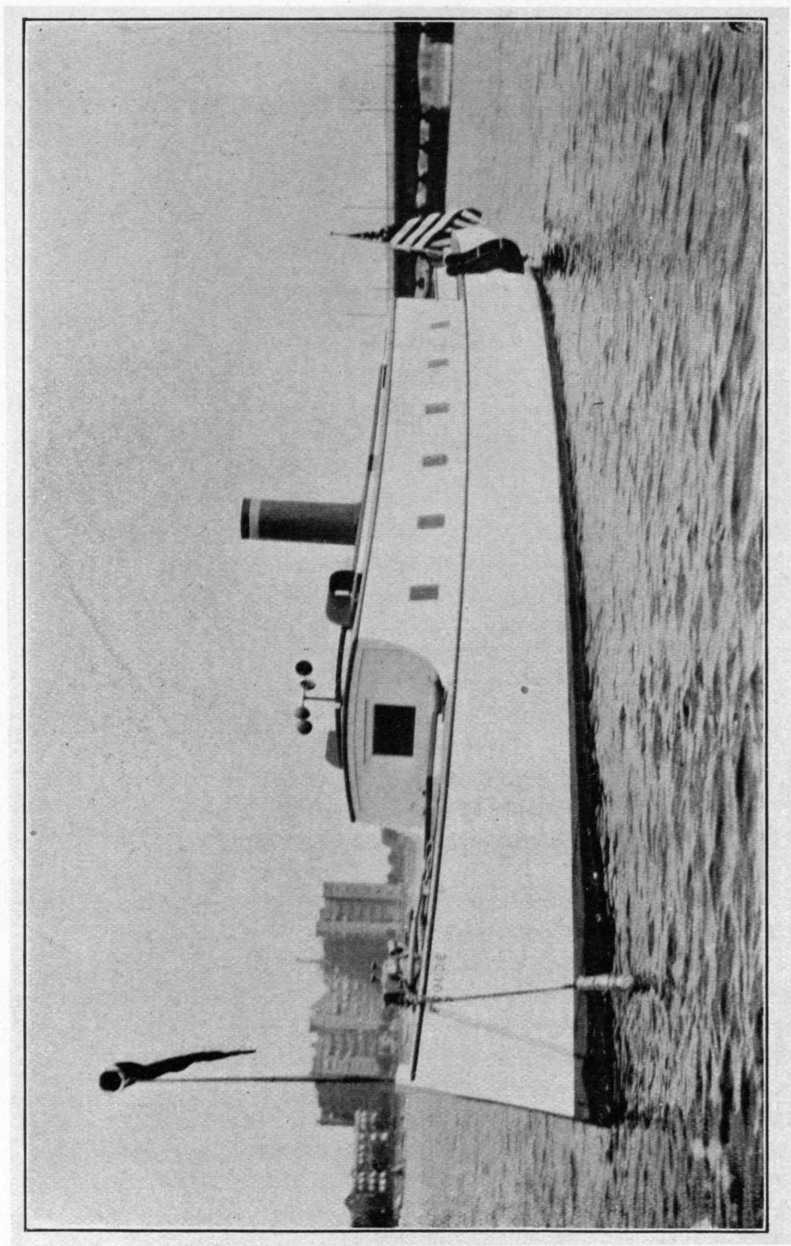
DETROIT TECHNOLOGY ASSOCIATION, Granger Whitney ('87), Secretary, Detroit Iron and  
Steel Company, Detroit, Mich.

TECHNOLOGY CLUB OF MILWAUKEE, Charles J. McIntosh ('03), Secretary, care Pierce  
Motor Company, Racine, Wis.

TECHNOLOGY CLUB OF BOSTON, Dr. Robert Seaton Williams ('02), Secretary, 83 Newbury  
Street, Boston, Mass.

TECHNOLOGY CLUB OF ROCHESTER, J. F. Ancona ('03), Secretary, 190 Birr Street, Rochester,  
N.Y.

BROOKLINE TECHNOLOGY ASSOCIATION, George Lawrence Smith ('97), Secretary, 22 Con-  
gress Street, Boston, Mass.



THE "FROUDE," A ONE-FIFTH SIZE MODEL OF THE U.S. STEAMSHIP "MANNING"

Presented to the Department of Naval Architecture by Dr. CHARLES G. WELD

# The Technology Review

VOL. XII.

OCTOBER, 1910.

No. 4.

---

## LOG OF THE "FROUDE"

---

### Research Work in the Department of Naval Architecture and Marine Engineering—Important Tests on a Model of the U.S. Steamship "Manning"

In the January number of the REVIEW it was announced that the Department of Naval Architecture and Marine Engineering was building a self-propelled model for experiments on resistance and propulsion, the conception of this project and the means for its prosecution being due to Dr. Charles G. Weld. The scientific results of the experiments with this model will naturally be presented to a technical society. The history of the work appears appropriate to this periodical. It will be remembered that the model was to be a one-fifth reduction of the United States steamship "Manning," chosen because the writer had made a series of successful speed trials on that vessel.

The hull was built by Stearns & MacKay of Marblehead, and to Mr. Stearns much credit must be given for the successful launching of the project as well as of the boat, for he took such a personal interest in the construction and had such a clear comprehension of the essentials and non-essentials of a boat for such a peculiar purpose that he was able to take the contract for a very moderate price. The plans and specifications were drawn under the supervision of Professor W. S. Leland, who inspected the hull from time to time and made sure that the form was fair and true. The boat had a house amidships to cover the machinery, and several hatches were provided for installing machinery and for convenience in working the boat. A stack was erected for the muffler for the engine, which gave the craft the appearance of a little steamer.

Though built early in the season, the launching was delayed

till the 30th of April, a little previous to the time when the machinery was expected. Then she was unostentatiously put overboard, and named the "Froude" after William Froude who originated the modern system of ship model experiments.

Meanwhile a model twenty-three feet long was constructed in the Institute model shop under the direction of Professor Leland, and was sent to Washington to be towed in the Model Basin. The "Froude's" propeller was planed correctly to form by the Fore River Shipbuilding Company, and was also forwarded to the Model Basin for testing. Through the influence of the chief constructor, Admiral Capps, this work was taken on as part of the regular investigation of the Navy Department, because it had relation to the revenue cutter "Manning," and was for scientific purposes only. Thus the Institute had the advantage of tests by the naval expert, Naval Constructor D. W. Taylor, with no other expense than for transportation.

The propelling machinery consisted of a gasoline electric generating set, and a motor with chain gear to the propeller shaft, the generating set and motor with controlling device being furnished by the General Electric Company. The motor was obtained early enough to have it sent to the Electrical Engineering Laboratory and tested under the direction of Professor R. R. Lawrence, who has been our adviser, mentor and friend in things electrical. It is sufficient to say that, though the knowledge of electricity in the Department of Naval Architecture and Marine Engineering is slender, we have had few troubles with our electrical fittings, and those have been set right by our adviser.

At daybreak on May 16 the "Ox," belonging to Mr. Starling Burgess, took the "Froude" from Marblehead to the River Works of the General Electric Company at Lynn, where it took on two tons of ballast and the propelling machinery, after which the craft was towed to the Charles River Basin.

Then began the outfitting, which was done mainly by the Institute force of electricians, carpenters, pipers, etc., with the aid of coppersmiths and plumbers from the trades. All this on a little boat forty feet long and six feet beam. The machinery was more than twice as bulky and complex as for any ordinary boat of her size, and there were all the instruments for taking and recording observations. This was the job of Mr. H. A. Everett, who had been charged with the design and arrangements of the

machinery, and who was in charge of testing during the summer, with the assistance of Mr. L. B. Chapman, '10.

The two main features that were designed and made at the Institute were the thrust mechanism and the recording device. The latter was described in the midwinter REVIEW, and it will be sufficient to say that it worked something like a stock ticker and with about the same regularity and reliability. It reels off a tape six inches wide on which are recorded time, distance, revolutions, anemometer readings and the thrust of the propeller shaft. All these by the aid of fountain pens that never fail to deliver their lines of multi-colored inks. The thrust mechanism will be mentioned again later.

The work was so far completed that the engine was started on June 2, and the next day the "Froude" left her moorings above Harvard Bridge and made a series of trial runs over the measured course below the bridge. Through the entire summer the engine behaved perfectly. It started easily and ran with very little attention until stopped, and never failed to deliver full power on demand. This was a matter of importance, for the working crew were just two men, Mr. Everett at the controller and wheel, who navigated and took all deck observations, and Mr. Chapman below to see that the machinery and apparatus were running, and also to read the voltmeter and ammeter. The trim of the boat required such exact regulation that no others were allowed aboard during record runs, the régime being to carry the head of the department whenever trouble occurred or was expected, and to carry only the working crew when things went well.

This may be a good place to say that the log shows that the "Froude" left her moorings for work only. She carried a yacht ensign on a stern pole to indicate that she carried neither freight nor passengers.

The outfitting went on with occasional runs to test the various features of the machinery and apparatus and familiarize the crew with their multifarious duties. The boat manœuvred like a little ship, and was far from being as handy as a launch of the same length.

On the 21st of June the "Froude" went down through the locks and bridges to Winthrop, and was hauled up to be painted above and below, and a brake test was made to determine the friction of the shaft and chain drive. All this took a week, and on the 30th she returned to the Basin.



Even now there remained some features to be adjusted, notably the thrust mechanism. In order to measure the thrust of the propeller, the thrust-block was arranged to slide back and forth on a bed-plate, and a bent lever took up and weighed the thrust. A short vertical arm bore against the thrust-block, and a long horizontal arm carried a sliding weight, and finally a spring at the end measured and recorded the minor fluctuations. The stuffing-box at the inboard end of the shaft log could be set up lightly so as to avoid sensible leakage, and the bore of the log was filled with oil under a slight head, so that it exuded slowly at the outboard bearing. The shaft was so free that a force of two pounds would make it crawl forward or aft when running, which was about three-fourths of a per cent. of the maximum thrust. The thrust block itself gave no trouble, and, as already said, the recording device ran perfectly; but we had our most serious trouble in transmitting the deflection of the spring to the recording tape. The real trouble came from synchronous vibration, which at times caused only a slight disturbance, and at other times just spattered the tape with ink. A dashpot on the weighing arm helped somewhat, but the real difficulty lay in the transmission device, which was changed again and again before satisfactory results could be attained. The final and successful device was a wire led from the head of the spring to a carriage for the recording pen. The wire was led up over and down to the table of the recording device with multiplying pulleys which gave a scale of twenty-seven pounds to the inch. A weight on the end of the wire took up all the slack. To draw the zero line, the weighing arm was simply forced down out of contact with the spring. So sensitive was the entire combination that every shift of the rudder could be read on the tape.

The completion of fitting out, on return from Winthrop, the final adjustments of the apparatus and preparation of certain other work, to be spoken of later, kept us busy until the 26th of July. After that date there was no further difficulty on the "Froude," and experimental runs could be made with certainty whenever the weather favored. A minor but vexatious matter was the destruction of our range poles by the small boy. True, we had permission from the Cambridge Park Commission, the countenance of the police and the good will of the city engineer, but all availed nothing, and precious time was lost setting poles on fair days.

Meanwhile a peculiar model had been building at our Garrison Street shop for the sake of testing the coefficient of friction of water on the hull. It was fifty feet long, with a draught of three feet and one foot beam. Two tons of iron and stone brought it down to its draught and gave it stability. During construction, launching and testing it excited various comments, expressing curiosity, wonder and execration. It was launched over the Cambridge sea-wall on the 8th of August, and just before it took the water the police boat came along with the grim remark, "Well, it is in Cambridge now, and we haven't anything to do with it yet"; but all they did to it was to put a red light on it when beached at Magazine Street.

Now steadiness on a course is proportional to the deadwood at bow and stern, and ready manœuvring is attained by cutting away deadwood, so it was anticipated that this model would tow on a straight line and would do nothing else. For this reason it was given a rudder at each end with the idea that we would tow it back and forth. We were quite right about the steadiness on a course, but we had not appreciated the persistence with which it would hold a course after the tow line was slacked. On the other hand, we were surprised to find that this model steered fairly well with the bow rudder clamped and with a good steering wheel for the stern rudder. To be sure, the turning circle required a fairly large portion of the Charles River Basin, but that was the lookout of other craft that were able to keep out of the way.

All of this would have been well enough, but, to avoid expense, the planking varied from usual ship work and the model leaked a good deal, consequently our regular practice was to beach it at Magazine Street, and pump it out when we wanted it. Our experiments were completed by the 18th of the month, and then the "Froude" took it to Winthrop, where it was laid up for the season. Opportunity was taken to paint the "Froude" again, and repeat the brake tests for friction of shaft and connected mechanism. By the 22d of August the "Froude" was again at her moorings above Harvard Bridge, and the series of tests on her propeller were run off expeditiously.

The propeller was first set with the hub an inch from the stern post, as indicated by the drawings of her prototype, the revenue cutter "Manning." Afterward that distance was increased successively to three inches, six inches, eighteen inches and thirty

inches. For some of the tests the rudder had to be removed, and a special rig with twin rudders had to be installed. All of this, with much office work on the experimental results, was completed by August 27, when the experiments were discontinued for the season.

Since the term opened, the "Froude" has been used for laboratory work by the students in the department, but, while of great value to them, there is nothing to report further than its successful completion. Now the "Froude" is hauled up at Winthrop, waiting for the work of another season.

That work will be testing propellers varying in pitch-ratio from 0.8 to 1.5, and in width of blade from that which gives a projected area of 0.6, the disk area, down to about 0.2. These propellers are already made for that purpose. They have the maximum width, and can be cut down to successive narrower blades, as required.

It is intended to design and build another boat modelled after the combined freight and passenger coasting steamer, but it is not yet determined when it will be placed in commission.

C. H. PEABODY, '77.

---

### Nominees of the Alumni Council

---

The nominating committee of the Alumni Council announces the following nominations:—

Nominees for term members on the Corporation: Julian A. Cameron, '87; Henry Howard, '89; Henry A. Morss, '93; Maurice B. Patch, '72; John L. Shortall, '87; Arthur Winslow, '81.

Nominations for officers of the association: For president, Arthur A. Noyes, '86; for vice-president, Frederick K. Copeland, '76; for secretary-treasurer, Walter Humphreys, '97; for executive committee, Frank W. Hodgdon, '76; Eugene C. Hultmann, '96; for members at large on the Council, Oakes Ames, '85; Harry E. Clifford, '86; Howard L. Coburn, '98; Franklin T. Miller, '95; Willis R. Whitney, '90.



## WILLIAM HARMON NILES

---

### Passing of the First Professor Emeritus of the Institute— An Appreciation by a Former Pupil

Professor William Harmon Niles died in Boston, September 13. His active teaching at the Institute ended in 1902, but he had since retained his membership in the Faculty and an office in the Geological Department, as well as a very deep concern in the Institute and its welfare. He had been a member of the scholarship committee of the Faculty since it was established as a standing committee in 1889, and was always warmly interested in the needs and efforts of students struggling against financial difficulties. His last service was attendance at the important meeting of that committee in June, and he seemed at that time, though far from robust, to have recovered in some measure from the profound shock of Mrs. Niles' death in the preceding year.

---

Professor Niles lives in the memory of the men and women who, as students, came under his influence, and his ideals are reflected in their acts. It is not so much through his writings that he moulded opinions and character as by daily cheering contact with his pupils and his colleagues, by the hearty zeal and willing energy with which he took up and carried through the innumerable details which fell to his lot or which he gladly assumed because it appeared that no other person could or would give the needed attention.

Every institution of learning, as well as every large enterprise, needs a man of the type of Professor Niles, with broad sympathies, genial bearing, quick to perceive the work to be done and willing to do the little things as well as the big, and notably who possesses, as Professor Niles did, that large common sense which solves difficulties and smooths out the paths for others.

In looking back over a period of many years of personal ac-

quaintance, ripening into friendship, we may not recall the title of a single article or scientific paper by Professor Niles or any particularly striking or original work of his, yet the memory retains the impression of a long series of acts of kindness, of sound advice, of cheering yet direct criticism founded on a full knowledge of many subjects, all of which in the aggregate has been of indescribable value to the students who came in contact with him. Impressed by his personality, they in turn have been enabled to pass on to others and transmit to an ever-widening circle the benefits derived from contact with the genial and helpful teacher.

The principal facts concerning the life of Professor Niles have been given in an earlier number of *THE TECHNOLOGY REVIEW*, that of October, 1902. Briefly enumerating these, it may be recalled that he was a native of Massachusetts, and spent nearly all of his life in that state, returning thither from various excursions to other parts of the United States and of foreign countries. He was, to most of his acquaintances from outside of the state, a typical "Boston man," with views enlarged by much study and travel (the word "Boston" in this connection being synonymous, especially in the West, with New England and its characteristic mental attitude). He differed, if at all, from the generally accepted impression of his countrymen in being less reticent, but shared with them the love of study, of research and of literary and social advancement.

Like many of his associates, he worked his way through school and academy by teaching, alternating with outdoor work, following in early life the course of development of most students of natural sciences, beginning with a fondness for collecting, then studying and analyzing his treasures, finally leading to specialization along one or more of the various lines in which the old so-called "natural history" studies have been differentiated. He was fortunate in coming into personal and intimate contact with men like Asa Gray in botany and Agassiz in geology, and with others who, as fellow-students, developed with him and became prominent in original investigation.

His attitude towards scientific work was conspicuously that of a fellow student and instructor. Whenever he acquired any item of interest, his first impulse was not to hoard this, to build up into a book or article, but it was his delight to discuss it with

his friends, and especially to put the matter in a form attractive to students and to others who might share with him the enjoyment of the added information.

As an instructor and lecturer, he rose above the dry technical presentation of a subject, and clothed the otherwise uninteresting details in language such that none but the most inert could fail to appreciate. If anything, his lectures might have been criticised as being too popular and too interesting to suit the preconceived ideas of some persons that a technical lecture, to be scientific, must be dry and wearisome. Yet, in spite of the attractive form, the real solid information was there, properly clothed or pictured.

In connection with the Institute of Technology Professor Niles seemed to occupy a unique position. He was not only the head of the geologic work, but he was constantly employed with matters which had to do with the upbuilding and strengthening of all branches and with all movements for the encouragement of the students, both individually and collectively. In collateral work and in the various scientific societies of which he was a member he displayed the same interest and energy, never tiring in his efforts to stimulate correct observation of natural phenomena, sound reasoning, joined with a healthy enjoyment of the daily tasks and routine. This applies particularly to the Appalachian Club, of which he was a most enthusiastic member and leader.

To many of us a visit to the Institute will never seem as real a return to student days as it was when Professor Niles was there with hearty greeting and appreciative interest in recent achievements of his boys.

F. H. NEWELL, '85.

---

### Register of Former Students

---

It was hoped by the alumni that the Institute would publish a Register of Former Students early in 1911. It has not been found feasible to do this, however, although plans are being made to publish a very complete Register of Former Students next year. There are a considerable number of registers remaining at the Institute which will be gladly sent to those applying for them.

## IMPRESSIVE REGISTRATION FIGURES

Over Fifteen Hundred Students registered—Ninety-three Colleges represented among the New Men alone—Students from Thirty-four Foreign Countries—Many Candidates for Advanced Degrees

The figures connected with registration this year are unusually impressive. The total registration is 1,506, which has been exceeded but three times in the history of the Institute, and these were the three years immediately preceding the increase of tuition fee from \$200 to \$250 and also the raising of entrance requirements. The figures of registration for the last eleven years are as follows: 1900-01, 1,277; 1901-02, 1,415; 1902-03, 1,608; 1903-04, 1,528; 1904-05, 1,561; 1905-06, 1,466; 1906-07, 1,397; 1907-08, 1,415; 1908-09, 1,461; 1909-10, 1,479; and 1910-11, 1,506.

Perhaps the most interesting thing connected with registration this year is the large number of college graduates coming here for advanced courses and the increasing number of foreigners representing every quarter of the globe. The total number of new college men comprises 96 graduates of other institutions and 78 who have attended other colleges, but have not been graduated. The most remarkable statement connected with registration is the fact that 174 new college men represent 93 colleges, and even these most impressive figures are overtopped by the total number of college men at the Institute, which has now reached the number of 405 of which 215 are graduates of other colleges. In other words, 14 per cent. of the total registration are graduates, and 27 per cent. have attended some other college before coming to the Institute.

The colleges represented are as follows: Allegheny, Meadville, Pa., 1; Amherst, Amherst, Mass., 2; Aulmi, China, 2; Barnard, New York city, 1; Bates, Lewiston, Me., 2; Bowdoin, Brunswick, Me., 2; Bradley Polytechnic, Peoria, Ill., 1; Bryn Mawr, Bryn Mawr, Pa., 1; Brown University, Providence, R.I., 5; Cambridge

University, Cambridge, England, 1; Canisius, Buffalo, N.Y., 1; Case School of Applied Science, Cleveland, Ohio, 1; Central Turkey College, 1; Chile Provincial College, Chile, 1; College of the City of New York, New York, 2; Columbia University, New York city, 2; Cooper Union, New York city, 1; Cornell University, Ithaca, N.Y., 2; Dartmouth, Hanover, N.H., 7; École Polytechnic, Montreal, Can., 1; Escuela Industrial, Buenos Ayres, South America, 2; Gouzaga, Spokane, Wash., 1; Hamilton, Clinton, N.Y., 1; Grinnell, Grinnell, Ia., 1; Hamilton, Clinton, N.Y., 1; Harvard, Cambridge, Mass., 8; Holy Cross, Worcester, Mass., 1; Imperial Polytechnic, Shanghai, China, 9; Institute of Havana, Havana, Cuba, 1; Johns Hopkins, Baltimore, Md., 1; Kansas State Agricultural College, Manhattan, Kan., 1; Knox College, Galesburg, Ill., 1; Könige Sachs, Freiburg, Germany, 1; Lafayette, Easton, Pa., 2; Leland Stanford, Stanford University, Cal., 2; Louisiana State University, Baton Rouge, La., 1; Macalester, St. Paul, Minn., 1; Marietta, Marietta, Ohio, 2; Maryland Agricultural College, College Hill, Md., 1; Melbourne University, Melbourne, Australia, 1; Washington and Jefferson, Washington, Pa., 1; National University of Buenos Ayres, South America, 1; New Hampshire State College, Durham, N.H., 1; Ohio North College, Ada, Ohio, 1; Oberlin, Oberlin, Ohio, 2; Oregon Agricultural College, Corvallis, Ore., 1; Otterbein University, Westerville, Ohio, 1; Princeton, Princeton, N.J., 3; Purdue University, Lafayette, Ind., 1; Rensselaer Polytechnic, Troy, N.Y., 1; Rochester University, Rochester, N.Y., 1; St. Johns College, 1; St. Lawrence University, Canton, N.Y., 1; St. Louis University, St. Louis, Mo., 4; St. Xavier, Chicago, Ill., 3; Sheffield Scientific School, New Haven, Conn., 2; Shuntien, China, 1; South Dakota State College, Brookings, S.D., 1; Spring Hill, Mobile, Ala., 2; Syracuse University, Syracuse, N.Y., 1; Syrian Protestant, Beirut, Syria, 2; Tech. Hochschule, Dresden, Germany, 1; Trinity, Hartford, Conn., 1; Tokio Imperial University, Tokio, Japan, 1; Tulane, New Orleans, La., 1; Tufts, Medford, Mass., 3; United States Naval Academy, Annapolis, Md., 2; University of California, Berkeley, Cal., 1; University of Chicago, Chicago, Ill., 2; University of Illinois, Urbana, Ill., 1; University of Maine, Orono, Me., 1; University of Michigan, Ann Arbor, Mich., 1; University of Minnesota, Minneapolis, Minn., 5; University of Mississippi, Oxford, Miss., 1; University of Paris, France, 1;



University of Oregon, Eugene, Ore., 2; University of New Brunswick, Fredericton, N.B., 1; University of Pennsylvania, Philadelphia, Pa., 2; University of Sydney, Sydney, Australia, 1; University of Texas, Austin, Tex., 3; University of Virginia, Charlottesville, Va., 2; University of Vermont, Burlington, Vt., 1; University of Wisconsin, Madison, Wis., 2; University of Wooster, Wooster, Ohio, 1; Valparaiso University, Valparaiso, Ind., 3; Van Buren College, 1; Washington University, St. Louis, Mo., 3; Tangshan Engineering and Mining College, 1; Wesleyan University, Middletown, Conn., 2; Whitman, Walla Walla, Wash., 2; Whitworth, Tacoma, Wash., 1; Williams, Williamstown, Mass., 7; Worcester Polytechnic, Worcester, Mass., 4; Yale, New Haven, Conn., 3.

The twenty-seven Chinese students sent here by the Chinese government constitute the largest group of the foreign contingent. Thirteen were students of the Imperial Polytechnic College at Shanghai, China. Whereas in the past Chinese students have almost universally been prepared outside of China, the certificates of most of the new students were in the Chinese language.

There are ninety-three foreigners at the Institute, representing thirty-four countries, as follows: Argentine Republic, Armenia, Australia, Bohemia, Brazil, Central America, Chile, China, Costa Rica, Cuba, Denmark, Holland, Great Britain, Canada, Finland, France, Germany, Greece, Honduras, Italy, Japan, Mexico, Norway, Ottoman Empire, Paraguay, Peru, Porto Rico, Prussia, Russia, Scotland, Spain, Sweden and Syria.

The entire figures of registration will not be available until early in December, but it seems likely that the number of states represented will be increased over last year.

The candidates for the degree of Doctor of Philosophy number 10; for the degree of Doctor of Engineering, 3; for the degree of Master of Science, 24; Resident Fellows, 1. There are ten women registered as regular students. The number of new students from Massachusetts is about 830.

---

Professor Arthur A. Noyes, director of the Research Laboratory of Physical Chemistry, has been appointed non-resident university lecturer on chemical research in Clark University.



A COSMOPOLITAN CLUB GROUP

## THE TECHNOLOGY COSMOPOLITAN CLUB

---

### One of the Largest in the Country—Ninety-three Foreign Students among its Members

The Cosmopolitan Club, which was organized last year, has become one of the largest and most flourishing institutions of this kind in the country. In numbers it is probably exceeded by Cornell alone, where a club-house is devoted exclusively to the use of the foreigners.

The Technology Cosmopolitan Club has over 125 members, of which there are fifteen Americans outside of the Faculty and Corporation members. The organization has club-rooms at 480 Boylston Street, directly opposite Rogers Building, which are always open. Here the periodical press of the entire world is represented. The rooms are also provided with a piano, magazines and games of all kinds. Chinese tea is served regularly, and the rooms have become a favorite gathering-place where Americans and foreigners mingle freely. Entertainments are provided, which take the form of national nights. On these occasions the entire program is given by students from one country. The most successful program was given on Chinese night last year. The rooms were decorated with Chinese banners and tapestries, and the program was as follows: introductory speech, "Chinese Intercourse with the West," by Y. T. Tsai, '10; "Old Educational Systems of China," by H. T. Shen, '09; Chinese music, by T. C. Seetoo, '12, and F. T. Yeh, '13; lantern-slides, "Glimpses of China," by Y. T. Tsai, '10; stories, by S. Y. Chen, '12; Chinese phonograph records.

The first meeting of the year was held October 10, when the club was addressed by President Maclaurin, the Dean and others. Professor Harrison Smith gave a lecture on the South Sea Islands, where he spent considerable part of the year of 1909. Japanese refreshments were served after the reception to the new members of the club. The officers of the club are as follows: president, L. M. Sandstein, New Zealand; vice-president, E. M. Suess,



Mexico; vice-president, Y. P. Chen, China; secretary-treasurer, Isaac Hausman, Russia.

Chen is the dean of the Chinese students at the Institute, receiving the government money for distribution among his countrymen. Among the members of the club is David Montt, nephew of the late president of Chile, who is at the Institute for the purpose of making investigations connected with industrial education for the use of his government. In the list are several sons of distinguished foreigners.

It will be interesting to our readers to know that among the foreigners are some of the brightest men that come to the Institute. It is true that many of them are poor scholars, but, when one considers the handicaps that they are under, the records that some of them make here are remarkable. It is obvious that the club offers an opportunity to these men to learn something of the customs and habits of the United States, thus assisting them greatly during the first months of their sojourn in a strange country.

---

### New Military Instructor

---

Captain Edwin V. Bookmiller, 9th Infantry, United States Army, has been detailed as professor of military science at the Massachusetts Institute of Technology in place of Captain A. T. Easton, retired.

Captain Bookmiller was appointed a captain in the 9th regiment July 8, 1899. He entered West Point June 14, 1885, being appointed from Ohio.

He was with allied forces in the operations in China against the Boxers, and was wounded at Tientsin. Previously he took part in the campaign against Sitting Bull, was at San Juan Hill in Cuba, and also engaged in active fighting in the Philippines.

According to a report received by Major-General Leonard Wood, the New England colleges which have had the advantage of military instruction by regular army officers detailed for the purpose have reached a high standard in military tactics and etiquette.

## SUMMER SCHOOL OF INDUSTRIAL CHEMISTRY

---

### Party welcomed by Tech Men all along the Line—Rochester Club Generous Host

The summer school of industrial chemistry of 1910 extended from June 8th to the 24th, with fourteen students, nearly all from Course X., in attendance. Each paid a tuition fee of \$18 to the Institute, besides meeting all of his individual travelling expenses. The tuition was intended merely to reimburse the Institute for its outlay on account of the trip, which was just covered by the fee.

The route selected for this trip was through central New York, as affording the desired variety of industrial operations. In all, twenty-seven different plants were visited, and the cordial reception accorded to us everywhere was pleasing evidence of the friendly attitude of the manufacturers toward the Institute. In general, full opportunity for observation and inquiry was afforded us.

Starting on the afternoon of June 8, the following places were included in the itinerary: at South Boston, the Standard Sugar Refinery; at North Adams, Mass., the Windsor Print Works and the Woollen Mills of Strong & Hewat Company; at Mechanicsville, N.Y., the West Virginia Pulp and Paper Company; at Ballston, the tannery of the American Hide and Leather Company; at Glens Falls, N.Y., the Glens Falls Portland Cement Company; at Syracuse, N.Y., the Halcomb Steel Company and the Onondaga Pottery Company; at Rochester, N.Y., in a three days' stop we visited the Reed Glass Company, the Pfaudler Company (enamel-lined tanks, etc.), the Stromberg-Carlson Company (telephone instruments, cables, etc.), Eastman Kodak Company (photographic supplies), Moerlbach Brewing Company, and Taylor Bros. (thermometers, pyrometers, etc.). At Niagara Falls, N.Y., were seen the Carborundum Works, Acheson Graphite Company, Shredded Wheat Company and the great plants of the Niagara Power Company and the Canadian Niagara Company at Clifton, Canada. The longest stop was made at Buffalo, where we visited the Larkin Company (soap, glycerine and toilet articles), the

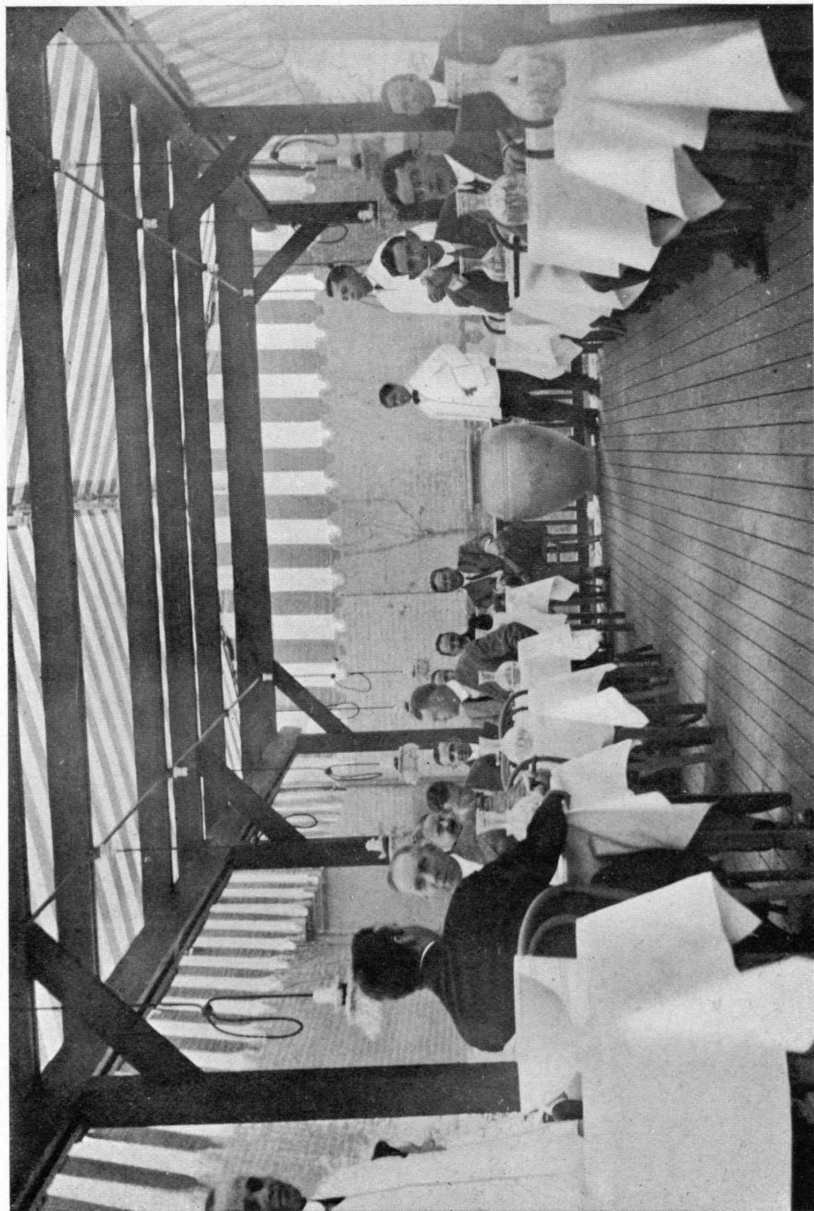
Atlas Refinery of the Standard Oil Company, the Linde Air Products Company (oxygen, nitrogen, liquid air), Sowers Manufacturing Company (foundry work and large castings), Spencer, Kellogg & Sons (linseed oil), Lackawanna Steel Company, Buffalo Smelting Company (copper refining) and Pratt & Lambert, Inc. (varnishes).

At many of these plants we found former Tech men in various positions of responsibility, to whose interest and co-operation a great part of the success and pleasure of the trip was due,—at the Glens Falls Portland Cement Works, Mr. J. B. Dixon, V., '98, and Mr. C. M. Butler, V., '07; at the Kodak Park Works, Rochester, Messrs. F. W. Lovejoy, X., '94, J. H. Haste, V., '96, F. A. Cole, II., '91, J. F. Ancona, II., '03, H. H. Tozier, V., '96, A. F. Sulzer, X., '01, W. G. Bent, X., '05, and M. H. Eisenhart, X., '07; at the Larkin Company, Buffalo, Mr. J. C. Heckman, X., '99, and Mr. C. B. Morey, V., '06; at Buffalo Smelting Company, Mr. M. B. Patch, III., '72; at Pratt & Lambert, Inc., Mr. R. W. Lindsay, X., '07.

The party was entertained at lunch at the Kodak Works, at the Moerlbach Brewery and at Pratt & Lambert, Inc. At each place the managing staff, sitting at table with us, afforded a delightful interval in the tour of inspection, with pleasant opportunity for social conversation. A fine entertainment was provided by the Technology Club of Rochester. An automobile excursion to Canandaigua was arranged, where we had a fish dinner and returned by moonlight. At dinner Tech songs and a few extemporaneous vocal ditties, composed by Mr. Dudley Clapp, added largely to the amusement and enjoyment of the evening. The fraternal spirit exhibited showed the bond between all Tech men, and made the evening one long to be remembered.

We were fortunate throughout the trip in having cool weather, for the most part, and but little discomfort from rain. That the party did not disintegrate, but remained together until the last plant had been visited, also showed a wholesome interest. The evening conferences were always promptly and fully attended, and participation in the discussions was general. Many obscure points were thus brought out and explained. Letters received since the close of the trip, from five or six of the party, indicate considerable satisfaction on the part of the writers.

H. P. TALBOT, '85.



NEW OPEN-AIR DINING-ROOM  
Technology Club, New York City

## NEW OPEN-AIR DINING-ROOM

Technology Club of New York enlarging its Attractions  
—Management encouraged by Increased Support

The Technology Club of New York on May 1, 1909, assumed the financial responsibility of a new club-house at 17 Gramercy Park with accommodations far beyond what its treasury could then afford, thus pursuing the policy of the Institute, which President Walker so earnestly commended, of securing additional and improved equipment, even though the necessary money to pay therefor was still to be obtained. That requisite funds will follow the acquisition of a superior plant for an alumni club, as well as for the Institute, has now been demonstrated in New York, for within a year the income of the club has so increased by larger membership and the support of the members as not only to insure the club's success in maintaining what it has undertaken, but to encourage it to secure additional advantages for its members by the erection of a well-planned and well-built out-of-door dining-room.

The need for such facilities was shown during the first year by the unexpected popularity of the club-house in the summer months, when many Tech men find themselves hard at work in the city while their families are at the seashore or in the country. The possibility of creating an attractive out-of-door dining place was afforded, as the thirty-three foot lot of the club is one hundred and thirty-five feet in depth, whereas the building is about sixty feet deep, leaving an open space or yard in the rear about seventy-five by thirty-three feet.

A committee of contractors, architects and artists, including J. Parker Fiske, H. K. White, F. C. Hirons, Noel Chamberlin and F. A. Colby, was appointed to investigate and report to the board of governors upon the subject. Two plans were considered by the committee. The first was the construction of a very attractive pergola dining place on the ground level around the yard, with tile flooring and a fountain in the centre; and F. C. Hirons produced a clever sketch in color of such a pergola. It



was concluded by the committee, however, that, as the yard is shut in on one side in part by the wall of an adjoining building (The Players' Club) and on the other, by an eight-foot, ivy-covered brick wall, which separates us from the out-of-door dining-room of the Columbia University Club, a ground level dining plan would be hot and oppressive.

The committee accordingly recommended the second plan, which was the erection of the canvas-covered pergola dining-room shown in the accompanying photograph, on the level of the main dining-room, about eight feet above the ground and about eighteen feet wide and sixty feet long, with an open space of about seven feet on each side and fifteen feet at the end.

This plan provided for at least twelve tables, all on the "outside," each seating four,—six tables on each side along the rail with service down the middle of the pergola. The entrance to the pergola is from the windows (reaching to the floor) of the main dining-room: these windows or doors formerly opened upon a small balcony. At the centre of the rear railing between the end tables and in full view is an artistic concrete vase, about four feet high, in which were placed vines, plants and palms; and this, with the blue and white canvas of the pergola, the green garden furniture, and the leaves on the neighboring walls, gave a bright and inviting summerlike effect.

The contract of construction was awarded to R. H. Howes, '03, and the execution was admirable. The substantial floor is supported by eight 6 x 6 uprights. The pergola effect is obtained by twenty horizontal 2 x 6 beams, arranged in pairs, upon 2 x 8 plates, supported by eight 6 x 6 uprights, the beams projecting about 18 inches on each side. A panelled railing about three feet high was provided. The canvas was supported by an upper structure of piping. All the wood-work was stained dark brown.

To this attractive out-of-door dining place, which supplies a feature enjoyed by few clubs in the city, the members of the club with their friends resorted in increasing numbers for luncheon and dinner until colder weather required the furling of the canvas and the closing of doors. We shall now look forward each year to the coming of the days when we can find this delightful and companionable noon-time and evening out-of-door meeting place at the club.

WILLIAM H. KING, '94.

## SEVENTH MEETING OF THE ALUMNI COUNCIL

---

### Nominees for Alumni Officers and Term Members of the Corporation—Reports of Committees—Miscellaneous Business

The following were present at the seventh meeting of the Alumni Council, at the University Club, Boston, October 3: president, A. F. Bemis, '93; secretary-treasurer, Walter Humphreys, '97; member of the executive committee, Walter E. Piper, '94.

Latest living ex-presidents: Walter B. Snow, '82; Everett Morss, '85; Frank L. Locke, '86; Edwin S. Webster, '88.

Representatives at large: Eben S. Stevens, '68; Charles T. Main, '76.

Class representatives: '68, Robert H. Richards; '71, E. W. Rollins; '74, George H. Barrus; '76, Charles T. Main; '77, Richard A. Hale; '84, Harry W. Tyler; '85, Isaac W. Litchfield; '86, Arthur A. Noyes; '87, E. G. Thomas; '88, Arthur T. Bradlee; '89, Jasper Whiting; '90, William Z. Ripley; '91, Charles Garrison; '93, F. H. Fay; '94, S. C. Prescott; '95, A. D. Fuller; '96, J. A. Rockwell; '00, Ingersoll Bowditch for N. J. Neall; '04, M. L. Emerson; '07, Lawrence Allen.

Representatives of local societies: Technology Club of Merrimack Valley, John C. Chase, '74; Technology Club of New York, Francis C. Green, '95; Northwestern Association, M. I. T., I. W. Litchfield, '85; Washington Society of the M. I. T., I. W. Litchfield, '85; Technology Club of Milwaukee, I. W. Litchfield, '85.

The records of the previous meeting were presented and approved.

In the report made for the Executive Committee the statement was made that five hundred dollars had been received in dues since the special committee on finance had sent out personally signed letters to members whose dues this year had not been paid.

Mr. Charles T. Main, '76, chairman of the nominating committee, reported for the committee, which makes the following nominations for the coming year: president for one year, Arthur A. Noyes, '86; vice-president for two years, F. K. Copeland, '76; secretary-treasurer for one year, Walter Humphreys, '97; executive committee for two years, Frank W. Hodgdon, '76, E. C. Hultman, '96; members at large for two years, Oakes Ames, '85, Harry E. Clifford, '86, Howard L. Coburn, '98, W. R. Whitney, '90, F. T. Miller, '95; term members on the corpora-

tion for five years, J. A. Cameron, '87, Henry Howard, '89, Henry A. Morss, '93, Arthur Winslow, '81, J. L. Shortall, '87, M. B. Patch, '72.

Mr. F. H. Fay spoke for the committee appointed by the council to consider the advisability of establishing a camp for the summer school of surveying. He said that various sites were being looked over by Professor Robbins, of the Civil Engineering Department.

The advisory council appointed to co-operate with the students in regard to the Tech Show made a report as follows:—

This committee was appointed by the council at the request of the Institute Committee, the official representatives of the undergraduate body, and they, in turn, were asked to do this by the management of the Tech Show of 1910.

The chief reason for the existence of this committee was the fact that, while the show had grown larger and more successful from a productive standpoint from year to year, its revenues had gradually diminished.

Our committee, on investigation, found the principal cause of this to be extravagance and unbusinesslike methods. Proper business methods were therefore promptly advised; one of the committee was made treasurer of the show; all checks and bills were countersigned by one of the committee; and the result of the year from a financial standpoint was approximately a profit of thirteen hundred dollars, while the previous show, after all the bills were paid, showed practically no profit.

The report is signed by M. L. Emerson and I. W. Litchfield.

The committee appointed for acting with the Corporation in regard to the Institute's application to the legislature for continued state aid made an informal report through its secretary, Professor H. W. Tyler, who invited suggestions from members of the council. The matter was informally discussed.

The resignation of Mr. James P. Munroe, '82, as a member of the committee on publication of the TECHNOLOGY REVIEW, which had been presented by him, was with regret accepted. The President announced the appointment of Mr. F. H. Fay, '93, as a member of the committee in place of Mr. Munroe.

The committee on student welfare, through its chairman, Professor A. A. Noyes, reported that eleven hundred dollars had been loaned to students at the Institute, who without this would not have been able to graduate.

The changes in the by-laws proposed at the last meeting of the council, and published for more than thirty days previous to this meeting in the TECHNOLOGY REVIEW, were approved by vote of the council.

Informally, the question of having luncheons held at stated times down town, where Technology Alumni could meet and hear some short address, was discussed, but no action was taken.

The Registrar of the Institute announced that the registration for this year is larger than for the last five years, and that the number of foreign



## Seventh Meeting of the Alumni Council 439

students is considerably larger than last year, among them being twenty-seven from China.

The Secretary, at the request of Professor Ripley, was asked to report at the next meeting what the Institute has done in regard to the university extension movement in Boston, in which the degree of Associate in Arts is granted by Harvard.

The question of attendance of substitutes in place of regular members at meetings of the council was referred to the executive committee to report at its next meeting.

It was stated that a former president had ruled, with regard to the number of votes given to an individual, that each individual has as many votes as the number of organizations he officially represents.

The council adjourned at forty-three minutes past nine, to meet Monday, November 7, the first Monday in November, in accordance with the announcement made in the last number of the REVIEW.

WALTER HUMPHREYS,  
*Secretary-Treasurer.*

---

### Make a Note of the Employment Bureau

---

The REVIEW would like to call the attention of the alumni in and around Boston to the Employment Bureau of the Institute of which M. R. Scharff, '09, President's assistant, has charge. The object of this department is to find employment for deserving students during their vacations and spare hours, and graduates are urged to avail themselves of the services of these students whenever they need men for work requiring part time only. A card or telephone message to Mr. Scharff at the Institute will receive immediate attention.

The Employment Bureau, under Mr. Scharff's direction, has done excellent work. Only forty-one replies were received from those who secured employment through this bureau last year, but these men reported total earnings of \$3,623.14. The officers of the Institute have co-operated with the Employment Bureau, and many of the positions have been secured through their personal efforts.

In addition to the above amount it is known that twenty-nine students who did not send in a report earned \$562, making the total over \$4,000.

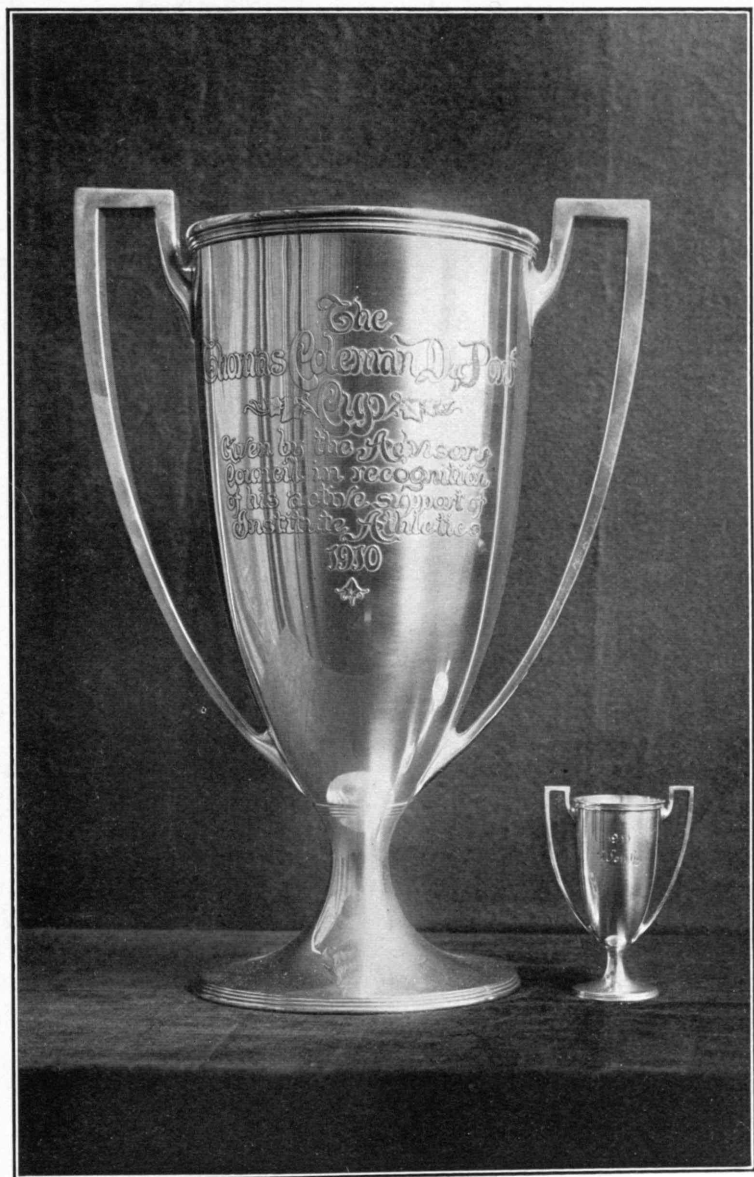
## THE DUPONT CUP

---

In the early '80's, when the athletic activities of the undergraduates were having their beginning, there was no one at the Institute who excelled Thomas Coleman duPont, '84, in all-round sports.

He was interested in everything and was good in everything, but he made a specialty of the 100-yard dash and the high kick, although he was captain and No. 3 man of the heavy-weight tug-of-war team, which was one of the best in New England at that time. DuPont has retained his interest not only in Technology, but in athletics ever since he left the Institute, and he has been very generous in assisting the cause of athletics. It is largely through his interest and liberality that the status of athletics here has advanced to its present high state. In recognition of his generous support in these matters and because of his athletic record, the Advisory Council has given a cup to be called "The duPont Cup," which has been placed in the Tech Union, bearing suitable inscription on the face. On the reverse side, space will be left to inscribe the names of winners in future years. A replica of the cup is to be given to the winner to retain as his personal property.

This year competition for the cup will be open to the four classes, but thereafter to the two lower classes only. The competitor may select one of three classes of events: 100-yard dash, 220-yard dash, 440-yard run, 880-yard run and 1-mile run; or running high jump, pole vault, running broad jump; or discus throw, shot put and hammer throw. The competition in all three events must be on the same day. The competitor having the greatest aggregate number of points in fall and spring combined will be awarded a replica of the duPont cup and his name will be inscribed on the original.



THE duPONT CUP

In honor of THOMAS COLEMAN duPONT, '84

## NEWTON ALUMNI OFFER SCHOLARSHIP

---

The formation of a general alumni committee to bring about the establishment of local scholarships, and the progress already made in that direction in the town of Brookline, have been reported in previous numbers of the REVIEW. The following correspondence shows the shape the matter has taken in the city of Newton, Mass., which has in the past sent so many excellent students to the Institute.

OCTOBER 22, 1910.

HENRY E. BOTHFELD, Esq.,  
Chairman, Newton School Committee,  
Newton, Mass.

*Dear Sir,*—On behalf of a Committee of Alumni of the Massachusetts Institute of Technology, residents of Newton, we respectfully invite the attention of the School Committee to the following plan for a Newton Scholarship in the Institute. The alumni undertake to provide an annual scholarship prize of \$250, covering the Institute tuition fee for one year, for a candidate to be selected in the manner stated below, paying this amount to the treasurer of the Institute when due.

The recipient of the Newton Scholarship is to be a graduate of one of the Newton high schools who shall have fulfilled all requirements for admission to the Institute. The award among such graduates is to be made by the School Committee, or its authorized agents, on the basis of the general merit and promise of the student. As the scholarship is intended to be a distinction which shall be attractive to any boy preparing for the Institute in either of the high schools of Newton, the award is to be independent of pecuniary need, but the recipient may, at his option, retain the title without the grant, which will in that case be added to the principal in the hands of the alumni trustees. The award is expected to be made each year to a student entering the Institute. Should the recipient need aid after his first year, he will presumably be eligible for an ordinary scholarship grant from the Institute.

In case this general plan should meet your approval, we shall be glad to co-operate in working out the necessary details. We venture to believe that the plan will not only tend to attract desirable students to the Institute of Technology, but that it will prove a valuable stimulus to good work in our high schools.

In presenting the plan to possible donors, we shall naturally hope to

be able to state that it has your approval, as it has already that of the officers of the Institute. While our immediate purpose is to secure funds for present use, we hope to accumulate a sufficient endowment to yield at least one scholarship each year.

Very truly yours,

S. W. WILDER, '91, *Chairman*.

A. S. PRATT, '84.

J. P. GRAY, '77.

W. G. SNOW, '89.

H. W. TYLER, '84.

H. J. CARLSON, '92, *Secretary*,  
89 State Street, Boston.

SCHOOL DEPARTMENT.  
NEWTON, MASS.

NEWTONVILLE, October 27, 1910.

Mr. H. J. CARLSON,  
89 State Street,  
Boston, Mass.

*Dear Sir*,—At the meeting of the School Committee held Oct. 26, 1910, the letter of the Committee of the Alumni of the Massachusetts Institute of Technology was read by the chairman. It was voted by the committee that the offer made in your communication be accepted and that the appreciation of the board be expressed.

It was further voted that the working out of the details of the plan be left to your committee and the Committee on High Schools for the City of Newton.

Respectfully yours,

(Signed) CELIA M. CHASE, *Secretary*.

The large number of influential alumni living in Newton should insure the immediate success of this important undertaking.

H. W. T.

---

The interesting features of the class news in THE TECHNOLOGY REVIEW are frequently commented on by the newspapers. No other alumni publication publishes the amount of alumni news that this magazine contains, and the class secretaries are entitled to a great deal of credit for the large amount of work which this labor of love entails. The most difficult feature of the work is to get news from classmates. Readers of the REVIEW should recognize this, and heartily co-operate with class secretaries.



## THE "REVIEW" TO BECOME A MONTHLY

---

The tremendous increase of alumni interest in Technology affairs all over the country has made it necessary for the Alumni Association to establish closer relations with its members, and it has therefore been decided to issue THE TECHNOLOGY REVIEW monthly, beginning January first, excepting during the months of August, September and October. The October number is omitted because it would contain little fresh Technology news, as the Institute does not open until that month.

The January, April, July and November numbers will be magazine numbers, and will be similar in style to the current number of the REVIEW, although they will probably not have so many pages. The other numbers will have pages uniform in size with the present REVIEW, but the type page will be much larger, with double columns. The monthly numbers will have from sixteen to thirty-two pages, each page representing twice the amount of matter in the present REVIEW. These smaller numbers will not contain departments, but will be devoted to miscellaneous news of general interest relating to the Institute and alumni. The regular correspondence with local associations and class secretaries will be confined to the magazine numbers, but anything of timely importance, as well as marriages, deaths and other similar matters, will be published in the current monthly number.

The smaller numbers will probably have no cover, and will have more of the character of a news publication.

The subscription price of the magazine will be included with the regular annual dues of the Alumni Association without change. Advertising contracts will be written for the quarterly numbers only, or advertisements will be inserted in the nine issues of the year at an increase of about 60 per cent. over the rate for the four quarterly issues, although the increase in circulation will be 125 per cent. The minimum number of copies printed during 1911 will be 4,200.

Although the publication of the monthly largely increases the expenses of the Association, it is believed that the enterprise will greatly add to the *esprit de corps* and will win stronger support from former students.

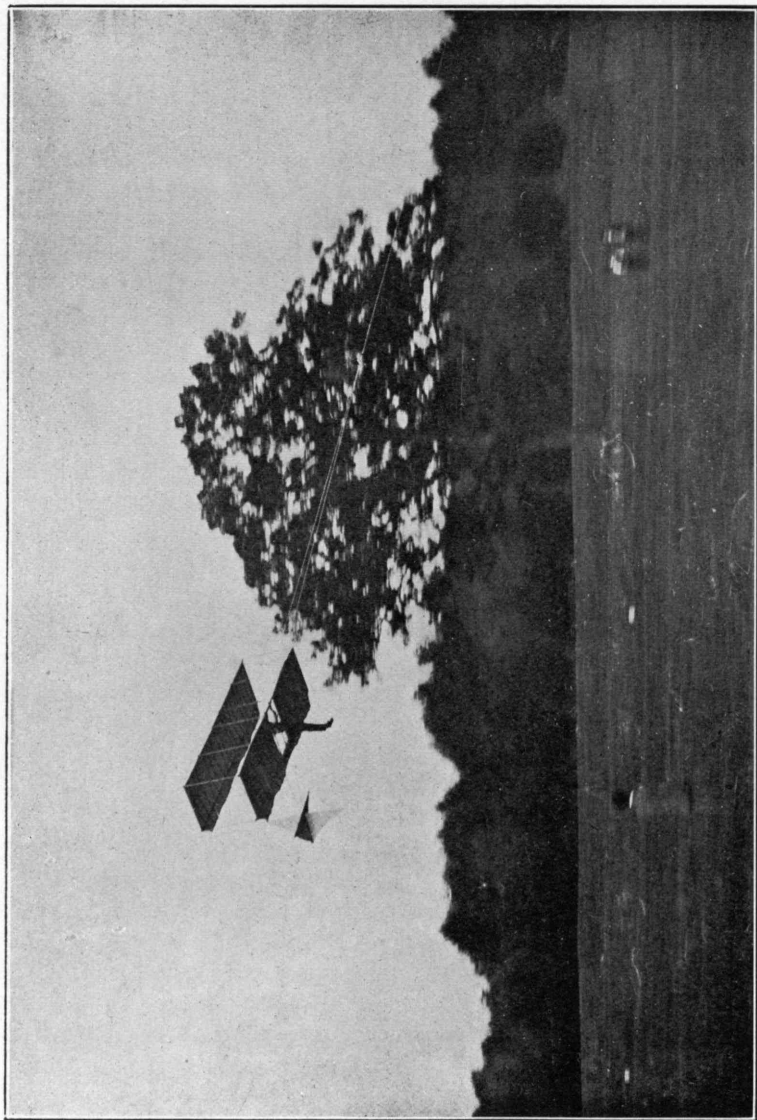
ECHOES FROM ALUMNI CENTRES

---

Merrimack Valley Club gives an Aviation Meet—Rochester entertains Summer School Students—Chicago publishes a Monthly and plans a Lively Season—New York Club Dinner January 21—Waking up in Seattle—Far East in the Fold

THE TECHNOLOGY CLUB OF THE MERRIMACK VALLEY.—The Technology Club of the Merrimack Valley held its first field day at the Vesper Country Club, Tyngsboro, Mass., Tuesday, Oct. 18, 1910, from two until eight o'clock. The weather was ideal, and the autumn foliage added to the natural beauty of the grounds.

The meeting took the form of an aeronautical reunion, with a demonstration of soaring during the afternoon by members of the Tech Aëro Club with their glider. The golf links and tennis courts were open, and the opportunities were enjoyed by the devotees of these sports. The centre of interest, however, was the successful demonstration of soaring by President H. F. Lehmann, '12, of the Tech Aëro Club, assisted by E. N. Fales, '11, F. W. Caldwell, '12, and J. B. Nealy, '12, all members of that club. Their glider had been tried out in the morning and successful flights had been made, but, as often happens when successful flights reach their finish, an accident occurred that put the craft out of commission for several hours. The repairs were not completed when the members of the alumni club began to arrive, and much interest was developed in the repair work done by the young aviators. Finally, when everything was in shape, the demonstration of the afternoon began. Dr. John H. Lambert, '98, of Lowell, who had assisted the Aëro Club men in the morning, again volunteered the use of his automobile and a start was made, but, as there was little wind, the glider rose only a few feet. A speedier car owned by Marshall Forrest was next put in position, with Mr. Fales directing the test and holding the end of the two hundred feet of towing rope. At the signal, "All right," the glider, after a sharp run, rose gracefully in the air and soared at a



TECHNOLOGY GLIDER AT THE VESPER COUNTRY CLUB, LOWELL, MASS.

Field Meeting of the Technology Club of the Merrimack Valley

(Courtesy of the Lowell *Courier-Citizen*)

height of fully thirty feet for over six hundred feet along the entire length of the open stretch of the golf course. Everything worked perfectly until Mr. Forrest was obliged to change the direction of the automobile, owing to large trees along the course. There seemed no reason why the glider need come down until the speed should be slackened, had no trees interfered, but, while trying to glide around one of these, the craft was thrown out of level to such a degree that Mr. Lehmann, who guided it, was obliged to descend so rapidly that a corner of the frame was broken. Every one who witnessed the flight was surprised at the ease with which the glider rose into the air and was kept in its course. The demonstration was pronounced a great success.

Dinner was served at 5.30 in the Vesper Country Club's large dining hall, with forty-one members and guests present, representing twenty-five different classes from '69 to '12. The table was set in the form of a big T, President George A. Nelson, '77, presiding, with Professor Abbott Lawrence Rotch, '84, president of the Harvard Aëronautical Society, and E. N. Fales, '11, ex-president of the Tech Aëro Club, as guests of honor. After the dinner Professor Rotch gave a very interesting talk on the navigation of the air.

He followed the general plan of the subject as published in his latest book, "The Conquest of the Air," the first edition of which is now exhausted. He gave a brief description of the ocean of air in which aërial navigation must of necessity take place, and explained the methods of investigating the air by means of kites and balloons carrying self-recording instruments, as practised at the Blue Hill Meteorological Observatory. From these observations it is found that the atmospheric pressure and the temperature decrease very rapidly as higher altitudes are reached, and the air currents become stronger and more steady. Professor Rotch said, if Wellman had followed his advice, the dirigible balloon that had been abandoned at sea on that very day would never have started out on a voyage destined to meet with disaster, for no balloon yet made could hold gas longer than two or three days. A balloon made strong enough to rise to a height of three miles and remain at that altitude would be carried eastward, in this latitude, by the upper currents at a rate of eighty miles an hour, making possible a successful passage across the Atlantic in less than two days. By taking advantage of the trade-winds at high

altitudes, a balloon would be carried westward from the coast of Africa to the West Indies. The value of the investigations into the relations of the air currents and density of the atmosphere, especially in the higher altitudes, as followed at the Blue Hill Meteorological Observatory for many years, is now being realized by the aeronauts and aviators, and the success of aerial navigation must depend largely upon scientific data determined by similar methods. When the ocean of air is better understood, long flights will be easier and safer. He spoke very interestingly of the machines heavier than air, and outlined their development. The perfected flying machine of the future, he thought, would combine the principles contained in the aeroplane and the helicopter, making it possible to ascend and descend with relatively little horizontal motion. He made clear the relations of power, weight and speed, and gave an outline of what the future of aerial navigation might be.

Mr. Fales told about the work of the Tech Aëro Club in designing and trying out their glider and the club's new biplane. He gave a clear and comprehensive outline of the work done by the club during the last year and the plans of work for the coming season. Mr. Fales described some of the problems that face the student of aeronautics, showing the scientific and practical way in which the engineering committee of the Aero Club has taken up these matters and the results that have been accomplished. He also described the experiments they expected to make with the co-operation of the mechanical engineering faculty and of the interest that is being taken in the club by well-known students of the art.

Great interest was shown in the subject, and with music and singing the meeting was thoroughly enjoyed.

Members and guests present were as follows:—

G. A. Nelson, '77, J. A. Faulkner, '76, H. F. Eastman, '88, John C. Chase, '74, George Bowers, '75, P. B. Wesson, '98, W. M. Perley, '98, C. L. Hammond, '97, Channing Whitaker, '69, Charles L. Batchelder, '09, George W. Bowers, '09, E. B. Carney, '93, R. A. Hale, '77, Oliver Stevens, '10, Clarence Reeds, '09, W. S. Coburn, '97, John P. Davis, '06, Paul E. Chalifoux, '02, Edgar H. Barker, '96, G. H. Perkins, '99, H. J. Ball, '06, Roy F. Lovejoy, '05, Charles G. Sargent, '93, H. V. Hildreth, '85, S. A. Foster, '03, C. L. Kimball, '86, R. F. Pickels, '87, G. W. Hamblet, '88, John Ashton, '96, James A. Lanigan, Jr., '94, John H. Lambert, '98, E. T.



Simpson, '90, Charles H. Eames, '97, W. O. Hildreth, '87, Andrew Fisher, '06. Guests: A. Lawrence Rotch, '84, E. N. Fales, '11, Hans F. Lehmann, '12, J. Barton Nealey, '12, Frank Walker Caldwell, '12, George Wylie Forrester, '12.

The genial presence of Secretary John A. Collins, Jr., was missed, owing to his being out of the country.—*For the Secretary, George A. Nelson, President.*

**TECHNOLOGY CLUB, BOSTON.**—The club starts its new season with the same officers as last year with one exception. Mr. E. G. Thomas, '87, as treasurer succeeds Professor A. H. Gill, whose other duties make it impossible for him to serve again this year.

The plans for the smoke talks are not yet complete, but our president assures us that the list of speakers will be a good one. The talks will be held on Tuesdays, whenever possible. The season was opened on Tuesday, October 25, by Mr. S. K. Humphrey, who in his usual interesting way talked on Travels in Spain. The next talk will be given on November 8 by Mr. Louis K. Rourke, '95, Boston's superintendent of streets, whose subject is not yet announced.

The club-house was thoroughly overhauled during the summer, and the painters and upholsterers have put it in excellent condition.

If you are a member, come and use the house as much as possible. If you are not a member, application blanks may be obtained from any of the officers. There is no waiting list.—*Robert S. Williams, Secretary, 83 Newbury Street.*

**TECHNOLOGY CLUB OF PUGET SOUND.**—In the past the Technology Club of Puget Sound has been rather quiet. It is some time since we have had a meeting, and, therefore, have not been able to send you much news for the REVIEW.

This winter we are planning to have informal luncheons monthly, at which time the boys in Seattle can get together, eat a bite, exchange gossip and keep in touch with each other. In addition to these noon gatherings we will have some evening meetings at which it will be possible for the out-of-town men to be present. These will be a little more formal, with speeches and light refreshments, or possibly we may start out with a dinner

at 6.30, followed by what business there may be to come before the club, and later by speeches. We will hold the first of the informal luncheons in a short time, and will then determine just what the plan shall be for the winter.

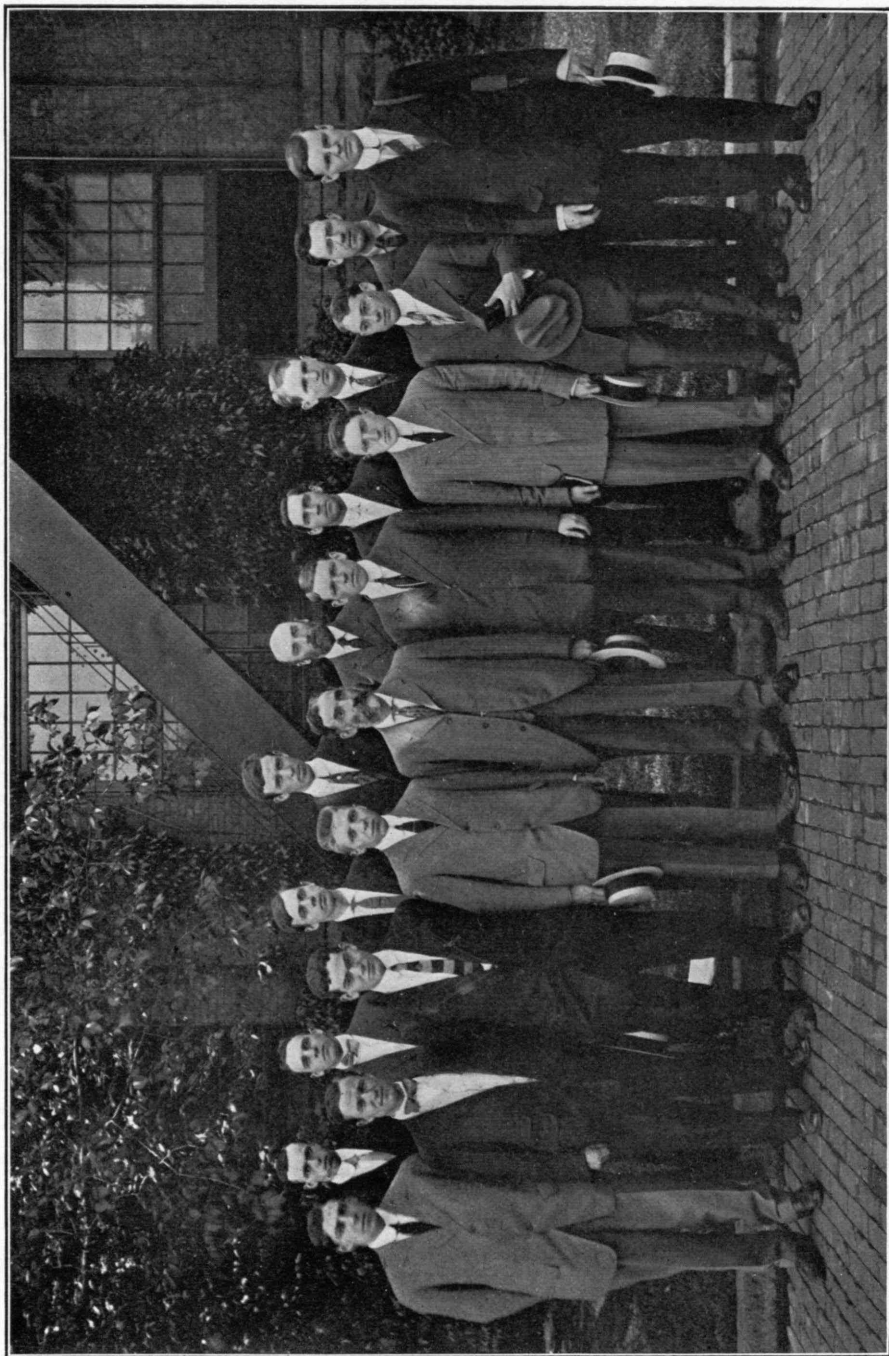
In the mean time we should be pleased to receive word of what the other clubs are doing.—*L. Arthur Wallon, Secretary, care of Seattle Electric Company, Seattle, Wash.*

**TECHNOLOGY ASSOCIATION OF NORTHERN CALIFORNIA.**—Definite plans for the coming year have not yet been fully settled, but among other things we expect to hold a series of dances and socials about five weeks apart from November until April. Beside the November semi-annual dinner there will be a number of dinners during the winter, to which will be invited men prominent in various lines of activity in San Francisco, who will give interesting talks on matters in which they are interested. There will also be theatre and bowling parties, as in the past.

We had two very enjoyable trips this summer: the first, which was held in June, was a walking tour through Mill Valley and Muir Woods, and the second was a fishing trip around San Francisco Bay.—*H. C. Blake, Secretary, 926 6th Street, Sacramento, Cal.*

**WASHINGTON SOCIETY OF THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY.**—The weekly lunches at Wallis' Café have been continued all summer, with the exception of about three weeks in August, and have been attended by a small coterie of enthusiastic "regulars" through the hottest weather. Interest in the society, as shown by the increase in the active membership, is becoming more wide-spread, and more money has been paid into the treasury than ever before in the history of the society. The outlook for the coming year is promising. With most of the men on the bowling team expected out for practice soon, we should make a good showing against Philadelphia, and the arrival of Mr. F. H. Walker from Pittsburg will insure a large attendance at the informal monthly dinners at the University Club.

The "inspection" of the Maryland Steel Company works at Sparrows Point, August 6, was the best thing in the excursion line that the members of this society have been treated to in the memory of the secretary. This was due largely to the arrangements or four entertainment made by Mr. F. W. Wood, '77, president



COURSE X. STUDENTS GUESTS OF THE TECHNOLOGY CLUB OF ROCHESTER

Photograph taken at the Works of the Eastman Kodak Company

of the company, which comprised a locomotive and flat car for transportation, the services of the various superintendents of departments for explanation, the launching of a ten-thousand-ton passenger and freight steamer for edification and a bang-up feed of cantaloupe, crabs, fish, fried chicken à la Maryland, hot cornbread, salad, sliced peaches and ice-cream for jollification, winding up with a dip in the bay, after we had bowled long enough to make a cool plunge attractive. The twenty-one men who participated will never regret getting up at 5.30 A.M. in order to make the train for that trip.

In spite of the removal from Washington of the president, Charles F. Willard, '01, vice-president, H. N. Parker, '94, and secretary, all within six months, the society is in a good way to have the most successful season in its history. The new Year Book shows an active membership of nearly one hundred out of a total membership of two hundred sixty, and the deficit in the treasury is less than usual at this time. May the good work go on, and the new officers receive as enthusiastic support from the membership as have those now retiring.—*A. M. Holcombe, Secretary.*

**THE TECHNOLOGY CLUB OF ROCHESTER.**—The Technology Club of Rochester has been enjoying a summer vacation, and has no momentous proceedings to record other than its attempt to entertain the students of course X. when they paid a short visit to Rochester in June.

As duly recorded in the REVIEW, fourteen men of course X., chaperoned by Professors Thorpe and Talbot, visited various industrial plants in Massachusetts and New York. Their sojourn in Rochester was from June 14 to 16, both dates inclusive.

Believing that some form of diversion would not be taken amiss, the club decided, through its executive committee, to attempt to entertain the visitors.

To this end an automobile ride to Canandaigua with a dinner for an excuse was arranged. The visitors and club members assembled at Powers Hotel at 5.30 P.M., and, after filling eight touring cars, made an auspicious start. The weather was fine and the road in good shape, so that the last machine reached Canandaigua by seven. Only one casualty marred the trip, that of a blow-out, which was quickly remedied.

At Flannigan's every one had a good appetite, and enjoyed the fish dinner provided. Following dinner, Professor Talbot thanked the club for its hospitality in a clever little speech. Following this the visitors entertained the club with songs,—Tech songs,—some of them of a more recent vintage than most of us had ever heard.

Apropos of the singing, two verses were written by one of the visitors, which were sung with much effect. It appears to the secretary unkind to allow them to drift into oblivion, so he herewith presents them (for what they are worth).

*Tune of "I wonder who's kissing her now."*

Hurrah for the Rochester Club,  
From the best little school in the Hub!  
They're mighty good fellows in every way,  
Night or day, come what may.  
They'll give you the best of good cheer  
With their fish and good Rochester beer,  
We have just had our fill,  
And we'll shout with a will,  
Hurrah for the Rochester Club!

*Tune of "Yama Yama Man."*

Rochester, Rochester, jolly old town,  
All the good beer that you can put down.  
The Tech Club is great, and it's strictly first rate  
In this Flower Town.  
Money's no object, they don't care for expense;  
When they entertain, you bet, it's immense.  
We can but say, we wish we could stay  
In this gay old town.

Credit is due F. A. Cole, '91, our past-master dinner arranger, for the dinner negotiations, and to the following members for gasoline and automobiles: F. W. Lovejoy, '94 (2); J. H. Haste, '96; C. F. Wray, '95; V. M. Palmer, '03; L. F. Meyers, '03; F. A. Cole, '91; and B. C. Hopeman, '00.

The following club members were present:—

F. W. Lovejoy, '94; A. S. Crocker, '97; F. A. Cole, '91; O. K. Foote, '80; C. F. Wray, '95; J. H. Haste, '96; H. H. Tozier, '96; A. F. Sulzer, '01; W. C. Bent, '05; M. H. Eisenhart, '07; W.



S. Lucey, '07; E. H. Packard, '07; J. F. Ancona, '03; N. Duffett, '11; M. Lyman, '91; J. D. Whittemore, '07; L. F. Meyers, '03; V. M. Palmer, '03; S. C. Allen, '06; C. Spiehler, '09; C. P. Monte, '11; Fred Vine, '06; George Fuller, '10; B. C. Hopeman, '00; J. H. Sinclair, '07.

Although outside the bounds of club matters, the secretary takes the liberty of giving a brief account of the visit of the course X. men to the Kodak Park Works of the Eastman Kodak Company. The visitors, upon arriving about 9 A.M., were grouped, photographed and then shown through the various departments by Manager J. H. Haste, '96. About noon a recess was taken, and the visitors and various department superintendents and assistants were served a lunch on the lawn in front of the plant. Following this, business was resumed, and the tour completed about 4 P.M. Each man on leaving was given a photograph of the group. Through the courtesy of J. H. Haste, '96, manager of the Kodak Park Works of the Eastman Kodak Company, the photograph is herewith reproduced.—*J. F. Ancona, Secretary-Treasurer, 190 Birr Street.*

**TECHNOLOGY CLUB OF THE FAR EAST.**—A number of Tech men in Manila have formed a Technology Club of the Far East, and are among the most loyal supporters Technology has anywhere else in the world. Among the organizers of the club are Claude O. Brown, '08; John H. Caton, 3d, 1904-08; Francisco D. Reyes, '08; Herbert S. Walker, 1900-02; F. L. H. Kimball, '99; Archer C. Nichols, '08; William A. Adams, 1904-07; William B. Poland, '90. Poland is president, and Adams secretary.

**TECHNOLOGY CLUB OF SOUTHERN CALIFORNIA.**—Certain members of the local association have been carrying on a quiet campaign to increase its numbers in the University Club. At the present time we have over twenty, and good prospects for several more. It might be interesting to note that outside of the University of California and the Leland Stanford, Jr., University at Palo Alto, Cal., M. I. T. has the largest membership of any of the college alumni associations.

Mr. R. J. Barber, '06, surprised us by calling at the office, and informing us that he is now permanently located in the Laughlin Building, this city, as the Pacific Coast agent for his company.

William D. Blackmer, III., '98, is now located at 314 H. W. Hellman Building, Los Angeles, Cal.

On the writer's previous trip to Arizona he was very much surprised to meet on the streets of Phoenix Mr. Herbert J. Mann, '06. Until recently Mr. Mann had been contracting in Globe, Ariz. About two months ago, however, he moved to Phoenix, where he is to enter the contracting and material business.

I am sorry to state that Lieutenant Charles T. Leeds, United States engineer for this district, has been relieved temporarily, and is now in the Army Hospital in New Mexico. It is reported that he will again be with us November first.

The saddest news which I have to relate and which will be a great surprise to the class of '06 is the death of Harold Lord. This came to my attention through a postal from William C. Furer, of Honolulu, and the enclosed clipping which he also sent:

The services in memory of the late Harold Lord, of the light-house service, whose death occurred on Sunday last, were held yesterday afternoon.

The deceased had been ill for the greater part of the time since his return from the mainland last January, his death being caused by a cardiac trouble brought on by rheumatism.

An abundance of beautiful floral tributes expressed the esteem in which Mr. Lord had been held by all who knew him. Among the tributes was one from the Hawaiian Engineering Association, of which he was secretary in 1908 and an active member since his arrival in Hawaii in 1907. Another floral design, a large cardinal "T," was presented by the Technology alumni of Hawaii, while a similar design, with the numerals '06 worked out in carnations, was presented by classmates of the Massachusetts Institute of Technology, of which he was a graduate in the class of 1906. Other tributes were presented by his fellow-workers in the light-house establishment, by the University Club of which he was a member, and by scores of friends and acquaintances.

Mr. Lord was born in Bury, England, on Dec. 20, 1881, but, when he was still quite young, his people came to America and settled in Malden, Mass., where in 1902 he was graduated from the Malden High School. An aunt, Miss Elizabeth Lord, who at the time of his death was on her way to Honolulu to take care of him, will arrive on the "China" next week. He leaves, besides his father and the above-mentioned aunt, two sisters.

The deceased was a junior member of the American Society of Civil Engineers, and while at college belonged to the Technology Architectural Society. In August of last year he was a delegate from the Hawaiian

Engineering Association to the Seventeenth National Irrigation Congress held in Spokane, Wash. He served on the Committee on Credentials, associated with him at this convention being James T. Taylor, representing the Territory of Hawaii. During the latter part of last year he was employed in the Portland (Ore.) office of the light-house establishment, but in January returned to his old post in Honolulu.

Mr. Lord was known to his associates as a man of high personal and business ideals, and even those who knew him but slightly recognized in him a fine and delicately attuned nature. From the æsthetic in the realms of literature and architecture he derived a more real and subtle pleasure than do the majority of men, especially those whose work is in the domain of engineering and construction. A lover of books and of things classical, a logician of no uncertain mark, he was essentially an optimist and a humanitarian.

—*L. A. Parker, Secretary, 764 Pacific Electric Building, Los Angeles, Cal.*

**NORTH-WESTERN ASSOCIATION OF THE M. I. T.**—The secretary has made all arrangements to publish the new monthly publication of the association early in November, thus beating the monthly *REVIEW* by about two months. At a recent meeting of the executive committee, plans for the winter were discussed and an attractive program for meetings arranged. During the summer the regular Thursday luncheons at the Grand Pacific Hotel have been well attended, some fifteen or twenty men getting out every week. At these meetings various matters relating to the association and the Institute are discussed, and they are becoming very popular.—*Meyer J. Sturm, Secretary, 84 La Salle Street, Chicago, Ill.*

**PITTSBURG ASSOCIATION OF THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY.**—The Pittsburg Alumni Association enters its 1911 season with a program replete with stunts of a character to wholly relieve the mind from the pressure of business cares. This program consists of three smokers and an annual dinner. The smoker will furnish the opportunity of displaying our talent in the lines of legerdemain, Terpsichorean art, "reform systems," etc., and all the members have pledged their support. We have quite a number who appear with "nom-de-plumes."

Our next smoker occurs the second week of November at the University Club, and we extend a hearty welcome to all Tech

men and their friends whenever in this district. Admission always free. You cannot forget the time and place, because the secretary, located in the Frick Building Annex, is only too anxious to have you call him by 'phone or drop in to borrow a dollar and learn of our doings.

Our membership at the present time registers 125, and we are ever after the delinquents who feel they are too busy to be comrades and come to earth for a jolly Tech night.

Our guarantor register is up to the standard, and has afforded the means to successfully float our doings for this season. Let us thank them at large for their loyal support.

We beg to announce that Henry D. Shute, '92, has been appointed acting vice-president of the Westinghouse Electric and Manufacturing Company. Morris Knowles, '91, has severed his connection with the city of Pittsburg, Bureau of Filtration, on the completion of the filtration plant, and is now engaged in private practice of hydraulic and civil engineering projects in all their phases, at 2548 Oliver Building, Pittsburg, Pa. Professor Fred Crabtree, '89, and Professor William L. Mott, '89, are still on the Faculty of the Carnegie Technical Schools, and we are ever pleased to have their smiling faces and counsel during the coming season. We regret to note that our genial entertainer, Fred Walker, II., '96, has left this section for other climes. Warren I. Bickford, '01, has attached a new line of business to his enterprise in the form of a wholesale electrical supply house, and his address now is 711 New Grant Street, Pittsburg, Pa.

Our officers for the season 1910-11 are: president, Sumner B. Ely, '92; vice-president, Henry D. Shute, '92; secretary-treasurer, Waldso Turner, '05; executive committee, Fred Crabtree, '89, Warren I. Bickford, '01, and L. K. Yoder, '95; representative to Alumni Council, Harry A. Rapelye, '08.—*Waldso Turner, '05, Secretary-Treasurer, 1174 Frick Building.*

**THE TECHNOLOGY CLUB OF NEW YORK.**—The new year at the club has had an auspicious opening. During the summer and late into October the out-of-door dining-room was a popular resort, and October 12 marked the beginning of a series of monthly smoke talks under the direction of F. C. Schmitz, '95, chairman of the entertainment committee. On that evening Professor Harrison W. Smith, of the Institute, was scheduled to tell us all

about his recent journey through the Malay Archipelago, the talk to be illustrated with colored lantern slides of rare beauty and charm at "another of our evenings of smoke, good cheer, refreshment and entertainment."

After the buzz of greetings of the one hundred and fifty men present, including a number of 1910 men who responded to the special invitation to the members of that class, had subsided, Mr. Schmitz welcomed the men to the club, referred modestly to what the entertainment committee has in store for the year and introduced Professor Smith as a man of the Institute having not only intimate knowledge of the subject of the evening, but the ability to present it in an entertaining manner.

The introduction was well merited, for the journey was enjoyed by us all, and we obtained many interesting glimpses of the natural beauties of the trip, the character and occupation of the inhabitants and the experiences of Professor Smith in the archipelago. Professor Smith's delightful personality and the artistic pictures shown by his remarkable collection of colored slides enhanced the success of the evening.

In addition to the series of monthly smoke talks, plans are already forming for the annual dinner of the club, to be held at Hotel Knickerbocker on Saturday evening, Jan. 21, 1911, when President Maclaurin will be our special guest of honor.

By the appointment of a number of sub-committees, in charge of various details, it is expected that this dinner will excel all others in genuine enjoyment as well as in execution and numbers present. The organization at present is: chairman, Allston Sargent, '98; on speakers, Harold Binney, F. C. Green, W. H. King; on entertainment, F. C. Schmitz; on finance, Ira Abbott; on notification, Walter Large, R. S. Allyn; on printing, C. M. Joyce; on seating arrangements, Kaludy Spalding, F. C. Cox; on decorations, F. C. Green.

To insure a night of unalloyed pleasure and merriment, the dinner will be held two weeks in advance of the annual meeting, which is set for Saturday evening, February 4, at the club-house, when the necessary reports and balloting will proceed and interfere as little as possible with the entertainment provided for a monthly smoker. On nominations for the board of governors the following committee has recently been appointed: chairman, Charles W. Aiken, '93; C. A. Meade, '94; A. L. Canfield, '95;



J. C. Boyd, '93; J. F. Bacon, '97; F. A. Colby, '01; and R. H. Howes, '03.

The increase in membership continues with the awakening of Tech men to the advantages of the club, and we are pleased especially to note among the new non-resident members Frederic Fay, '93, James Lanigan, '94, H. J. Boos, instructor, and Professor D. C. Jackson, of the Institute, and among the new members from '10 W. T. Spalding, P. W. Burnham, G. F. Shaffer, D. A. Stoddart, E. M. Potter, H. S. Gott and G. W. McRae.

Now is the time to subscribe.—*William H. King, '94, Chairman Publicity Committee, 17 Gramercy Park.*

---

### Our Chemists in New England

---

A remarkable tribute to the work of the Institute is given in the August number of *Advance New England*, published by the Boston Chamber of Commerce, which is devoted to the subject of "Chemistry in Industry." Every article in the magazine reflects credit on Technology and Technology graduates. The articles are: "The Relation of Chemistry to Industry," by Allan A. Clafin, '94, president of the Avery Chemical Company, Boston; "The Chemical Resources of New England," by F. G. Stantial, '79, superintendent of the Cochrane Chemical Company of Everett, Mass.; "Chemical Industry in New England Today," by S. W. Wilder, '91, president of the Merrimac Chemical Company; "The Extension of Chemical Industry in New England," by Allan A. Clafin, '94; "Chemistry and Dividends," by Arthur D. Little, '85, chairman of the Division of Industrial Chemists and Chemical Engineers, American Chemical Society; "Achievements of Some New England Chemists," by Professor William H. Walker, director of the laboratory of applied chemistry at the Institute, who has recently been made president of the American Electrochemical Society; "New England's Share in Training Chemists," by Professor H. P. Talbot, '85, head of the department of chemistry at the Institute; and a very entertaining article, "Chemical Fakes," by Arthur D. Little, '85. The only editorial in which there is personal mention is devoted to the work of Dr. Walker in the field of applied chemistry.

AMONG THE UNDERGRADUATES

---

## Union Dining Room Committee making a Record—Activity of the Aëro Club—Quarter Centennial of “Technique”—Harvard wins the Cross Country Race

There is a great deal of work to be done by the Institute Committee during the coming season, principally along the lines of co-ordinating the student activities. The classes have not yet elected their officers, so the committee has not been in a position to do other than routine business, without its full quota of members.

The Tech Show management has been authorized to turn over to the Athletic Association \$450, to be used as the Advisory Council on Athletics shall direct. The committee also distributed the books “Concerning the Massachusetts Institute of Technology” to the freshmen.

The Tech Union dining-room started off most successfully this year, and showed a profit almost from the very beginning. The experience of the last two years has proved valuable, and, benefiting by it, the dining room committee, which consists of undergraduates with Mr. Maurice R. Scharff, '09, President's assistant, in general charge, has found a way to provide wholesome, well-cooked food at reasonable prices with good service. The dining-room now offers three kinds of service,—cafeteria, *table d'hôte* and *à la carte*. It is believed that this department will turn over a satisfactory balance at the end of the year for the first time since it was started. Nearly every college dining-room is run at a loss.

Twenty-five years ago, in 1885, the first volume of *Technique* was published by the class of 1887. A quarter of a century has shown a great advancement in the production of *Technique*, which is today one of the best of college annuals. Last year was one of the rare occasions when the junior class made some profit on this publication because it gave particular attention to the business end of the matter. The present board is fully as competent, and, it is believed, will attain similar results.

*The Tech* which was started as a daily last year, had a somewhat trying experience, but came out with flying colors, and this year started off with much encouragement. The income from subscriptions and advertisements is greater than ever. The conditions of publication can undoubtedly be improved, but the pioneering work has been done, and the editors can now devote their attention to the character and literary quality of the paper.

We have had occasion to speak of the success of the undergraduate societies in the various courses, and it is apparent this year that the high character of the work of these societies will be continued, if not improved. For the most part, the meetings are devoted to serious matters of professional importance. Generally, the speaker is an engineer or scientist engaged in some important undertaking, and in this way the students get in touch with the practical side of the work they contemplate entering.

The Aëro Club is one of the most active of the special engineering clubs, and the work it is doing is being taken up so thoroughly that the members of the engineering committee are practically taking an option in aëronautics. The club has been addressed by practical men who have had experience in aviation. The committee is engaged in making a number of fundamental experiments rather than going into the spectacular side. It is being treated as an art, not a sport. It is true that a number of flights have been made with the glider "Technology I." It was entered in one contest where it won the first prize, but in general the line of work has been purely experimental. At a recent meeting of the Technology Club of the Merrimack Valley the officers of the club gave an exhibition of the flying qualities of the glider, as noted in the correspondence from that club elsewhere. The members of the Merrimack Valley Association subscribed \$125 at that time to assist the Aëro Club in furthering its work.

The sixth annual Technology-Harvard cross-country race was held over the Harvard course at Chestnut Hill, October 29, and resulted in a victory for Harvard by a score of 36 to 43. Technology has been victor in the five races previous to this, Harvard winning the contest in 1905 with a score of 35 to 43. Technology was easily the winner in last year's race, when only two of Harvard's team finished among the first nine men. Each team was composed of twelve men, the first six of which scored. Harvard took the first three places, followed by five Tech men, then three

Harvard men, with a Tech man last. The result of the race is at least partly due to the excellent work of Coach Schrubbs, the champion English long-distance runner, who was secured as Harvard's coach this fall.

The intercollegiate cross-country race will be held over the Princeton course on November 11. The order of finish last year was Cornell, Technology, Michigan, Yale, Dartmouth, Syracuse, Harvard, Pennsylvania, Columbia and Princeton.

The Tech Crew has secured Coach O'Leary of the Union Boat Club again this season, and now has two shells in the water. The crew is in the best of hands, and is putting in honest, conscientious work on the river. We may certainly look for a creditable showing next spring.

The Cosmopolitan Club has begun its meetings with a very large enrolment. The club-rooms are located on Boylston Street, opposite Rogers Building, where the foreigners can make themselves at home. The club is now one of the largest, if not the largest, in this country.

---

### New Doctors of Science

---

The list of doctorates of science conferred by American universities for 1910 contains the following graduates or former students of the Institute, with the titles of their theses:—

Alice Frances Blood, '03, chemical course, graduate of Yale University, whose thesis was "The Proteolytic Enzymes in Certain Plants."

Arthur Bowes Frizell, 1884-87, whose thesis was on "Foundations of Arithmetic," is a professor in mathematics and astronomy, Midland College, Atchison, Kan.

George Frederic White, '06, chemical course, a graduate of Johns Hopkins University, whose thesis was on "The Conductivity and Dissociation of Organic Acids in Aqueous Solution at Different Temperatures."

Elvira Wood, 1893-94, a graduate of Columbia College, whose thesis was on "The Phylogeny of Certain Cerithidæ."

TECH MEN IN THE PUBLIC EYE

---

WALTER CLARK, 1866-69, the well-known landscape artist, was born in Brooklyn, N.Y., 1848. After leaving the Institute in 1870, he became a student at the National Academy of Design in New York, and later studied under the late George Inness. Mr. Clark followed sculpture until 1881, and since then he has devoted himself almost wholly to landscape painting. He exhibited at the World's Columbian Exposition at Chicago in 1893, and at the Universal Expositions held in Buffalo and St. Louis. In 1903 he was awarded the Inness gold medal of the National Academy of Design for his picture of "Gloucester Harbor." Mr. Clark resides at New Rochelle, N.Y., and has long been prominent in the affairs of the leading art societies and organizations of artists in New York city.

GEORGE F. SWAIN, '77, has been engaged by a special commission created by the legislature to superintend the work of the appraisal of the property of the New York, New Haven & Hartford Railroad in the State of Massachusetts. The board in general charge of the work consists of the railroad commissioner, the tax commissioner and bank commissioner, and its object is to ascertain if the company's assets in the state are sufficient to secure its liabilities based on them.

SAMUEL A. GREELEY, '06, has been recently appointed superintendent of the refuse incineration plant in Milwaukee, Wis. Mr. Greeley was in charge of the construction work of the plant as resident engineer for Hering & Fuller of New York city, and on its completion he stood highest (97.3%) in the civil service examinations held by the city of Milwaukee for the superintendency.

CHARLES SEDGWICK MINOT, '72, James Stillman professor of comparative anatomy at the Harvard Medical School, was born in Boston in 1852. After being graduated from the chemical course at the Institute, he studied at the universities of Leipzig, Paris and Würzburg. He received the degree of S.D. from Har-



vard in 1878, LL.D. from Yale in 1898, D.Sc. from Oxford in 1902 and LL.D. from Toronto in 1904. He has been a fellow of the American Association for the Advancement of Science since 1880. He was general secretary in 1895, and president in 1900. He is corresponding member of the British Association for the Advancement of Science, Royal Academy, Turin, Society of Biologists, Paris. He has been a member of the National Academy of Sciences since 1897, president of the Boston Society of Natural History since 1897, and is president of the Massachusetts Zoölogical Society and the Association of American Anatomists. He is a member of the American Academy of Arts and Sciences, New York Academy of Sciences and American Philosophical Society. Dr. Minot is the author of "Human Embryology," 1892; "Bibliography of Vertebrate Embryology, Boston Society of Natural History," 1893; "A Laboratory Text-book of Human Embryology," 1903; also numerous papers on biological subjects. He is also an inventor of two forms of microtomes.

HUGO F. KUEHNE, '08, has been made head of the recently created School of Architecture at the University of Texas. Mr. Kuehne was graduated in architecture at the Institute in 1908, and since that time has been connected with G. Henri Desmond, an architect of Boston.

DANIEL C. FRENCH, 1867-68, and CASS GILBERT, 1878-79, are members of the Commission of Fine Arts of Washington, D.C., recently appointed by President Taft to pass upon sites, plans, etc., for future buildings, monuments and other structures in the District of Columbia.

ANDREW N. REBORI, 1906-08, has recently been made a professor in the architectural department of Armour Institute at Chicago. Mr. Rebori is also a graduate of the École des Beaux-Arts of Paris, and until recently has been practising architecture in New York.

GEORGE E. BURNAP, '06, has recently been appointed to the office of landscape architect of the public parks, Washington, D.C. Since he was graduated from the Institute, Mr. Burnap has been connected with the architectural department of Cornell University. It will be his duty to lay out the plans for the parks of the future.

PAUL HANSEN, '03, who has been acting chief engineer of the Ohio State Board of Health, has recently been made state sanitary engineer for the state of Kentucky.

ROBERT E. RICHARDSON, 1881-85, is the subject of an article in the *Electrical World* in its series on electrical engineers. Mr. Richardson was born in Concord, Mass., in 1866, and after leaving the Institute taught mathematics at Morgan Park Military Academy in Chicago, but since that time has been connected with large commercial interests. In 1893 he joined Mr. R. H. Pierce, '85, in establishing the firm of Pierce & Richardson, consulting engineers. S. G. Neiler, 1884-86, afterwards became a member of the organization which became known as Pierce, Richardson & Neiler, one of the best-known firms of engineers in the middle west. After reporting on the various electric power and lighting interests in Kansas City, the services of Mr. Richardson were secured to form an organization for their joint operation, and since that time he has been acting as general manager for all the properties supplying electric light and power for Kansas City and its suburbs. Mr. Richardson resigned his position in July, to take the management of the combined lighting and power interests in Grand Rapids, Mich.

CHARLES F. F. CAMPBELL, '01, has left Massachusetts to go to Pittsburg to take charge of the work of the recently organized Pennsylvania Association for the Blind. Born at the Royal Normal College and Academy of Music for the Blind (the well-known institution founded by Sir Francis Campbell), the younger Campbell, except for his student years, has lived with and devoted his entire attention to the cause of the blind. The father has developed the higher educational and musical training of the blind, while the son has endeavored to increase their industrial opportunities and to arouse interest in the prevention of blindness. During Mr. Campbell's seven years' work with the Association and State Commission for the Blind in Massachusetts he introduced several new industries, and founded a magazine called the *Outlook for the Blind*, which gives a record of their progress and welfare. This quarterly he now publishes in Pittsburg. He is also secretary of the national organization known as the American Association of Workers for the Blind.

W. HOLLIS GODFREY, 1897-98, whose recently published book, the "Health of the City," has attracted much attention, has made a reputation for himself as an author in the field of fiction as well as in that of science. He has published "An Elementary Chemistry," "A Laboratory Manual of Descriptive Chemistry," "The Man who ended War," two volumes of a series entitled "The Young Captains of Industry Series," the titles of the two books being "For the Norton Name" and "Jack Collerton's Engine." Mr. Godfrey has another juvenile which is awaiting publication, and a second volume on the general lines of the "Health of the City" is well advanced toward completion. His miscellaneous contributions have been prolific, including essays, short stories and articles on popular science. Mr. Godfrey was graduated from Tufts College, and, after spending two years at the Institute, he began his scientific work under actual mill conditions. He spent two years in business, and then decided to take up teaching and writing. He is now at the head of the department of science in the School of Practical Arts in Boston.

WALTER S. RODMAN, '09, has been appointed adjunct professor of Electrical Engineering at the University of Virginia. Professor Rodman was an instructor in electrical engineering at Rhode Island College before coming to the Institute, where he received the degree of Master of Science.

HERBERT H. ADAMS, '99, has been appointed general manager of the Toronto, Hamilton & Buffalo Railroad, with office at Hamilton, Ont. He took a course in civil engineering at the Institute, receiving the degree of B.S. in 1899. He began railway work in July, 1899, with the Michigan Central, since which time he has been consecutively, December, 1900, assistant engineer; March, 1902, assistant chief engineer; December, 1902, assistant division superintendent; and from February, 1904, to October, 1909, he was division superintendent on the same road. On Oct. 1, 1909, he was appointed general superintendent of the Toronto, Hamilton & Buffalo Railroad, which position he held at the time of his recent appointment as general manager.

F. K. MERRIMAN, '04, has recently accepted the chair of civil engineering at the Catholic University of America, Washington, D.C.

DEPARTMENT NEWS OF INTEREST

---

Professor Osborne made Professor Emeritus—Valuable Apparatus for Physics Department—Mining Summer School—Large Classes in Architecture—New Course in Illumination and Photometry—Dr. Mullikin's Book Published—Additional Equipment for Mechanical Laboratories

DEPARTMENT OF MATHEMATICS.—Professor Osborne has been made professor emeritus, in accordance with his desire to be relieved of most of his work, but retains for the present one section of second-year mathematics. Professor Osborne is the only remaining member of the original Faculty of the Institute, having been continuously in its service for forty-five years. His many friends among the alumni will be glad to know of his continued interest and enjoyment in his work.

Professor Woods resumes teaching after a year's leave of absence. A part of the summer of 1909 was spent at the University of Göttingen, and most of the year following in Paris, where Professor Woods found much of interest in the mathematical work of the University of Paris and the College of France.

Mr. B. E. Carter, Jr., instructor in mathematics from 1893, has been appointed instructor in Colby College.

Dr. N. J. Lennes, instructor in 1907-08 and 1909-10, has received an appointment at Columbia University.

Dr. Frank L. Hitchcock has been appointed instructor in mathematics. He graduated at Harvard in 1896. After a year of teaching he went abroad and was for six years engaged in teaching and study in Paris. This was followed by appointments in physics and chemistry in the west and combined with a year of study at the University of Cincinnati. He took his Doctor's degree at Harvard last June.

Mr. W. E. MacDonald, a former member of the department, is now connected with the mathematical staff of a college in China.

**DEPARTMENT OF ELECTRICAL ENGINEERING.**—The summer has given an opportunity to improve different portions of the work of the department. Professor Pender has completed the publication of his lectures called the "Principles of Electrical Engineering," which are the foundation of a year's instruction in elements of electrical engineering for the third-year men of course VI. The syllabus of the lectures was distributed last year in the form of multigraphed notes. A revision is now completed, and will soon be printed as a text-book, entitled the "Principles of Electrical Engineering." This class of Dr. Pender's includes electrical engineering and electrochemistry students of the third year, naval constructors of the senior year and some special students, and has now reached the number of one hundred students.

A new course in illumination and photometry, which is intended particularly to deal with the essential elements of illumination and illumination engineering, has been introduced as an optional study for fourth-year students during the first term. The course will be given by Professor Wickenden as lectures, conferences and laboratory work. Professor Wickenden has spent the greater part of the summer in work associated with the engineering and development work of the National Electric Lamp Association in Cleveland, and at the same time has had in hand the preparation of the syllabus for these lectures.

A few improvements were made during the summer in the laboratories of the department. By moving partitions, the high voltage testing laboratory has been doubled in size, which had become necessary on account of the amount of use now made of this laboratory. Some important equipment connected with the laboratory for electrical measurements and standardizing has also been added. The equipment of the department is in a satisfactory state, but will have to be added to materially during the next few years in case the laboratory classes continue to increase. The laboratory class of fourth-year electrical engineering students, this year, will apparently be considerably larger than last year's class, and the third-year class will also be considerably larger, besides which the department will have mining engineering students in the laboratory for the first time this year. The electrical engineering laboratories now give instruction to the students in civil engineering (Course I.), mechanical en-



gineering (Course II.), mining engineering (Course III.), physics (Course VIII.), chemical engineering (Course X.), naval architecture (Course XIII.), naval construction (Course XIII.A), and electrochemistry (Course XIV.), besides the instruction for the electrical engineering students.

Some additions have been made to the illustrative apparatus used by Professor Harrison W. Smith in his lectures to the students of the civil engineering, mechanical engineering and mining engineering courses. These include apparatus designed by Professor Smith, and made by the department mechanician, to illustrate the reactions of wattmeters in polyphase power circuits and to illustrate some of the phenomena of synchronous operation of alternating circuit machines. The mechanician has also been at work on additional oscillographs of the form designed by Professor Laws.

Changes in the teaching staff of the department have taken place only amongst instructors and assistants. Mr. E. J. Edwards, who was instructor in the electrical engineering laboratory, resigned to go into the employ of the National Electric Lamp Association at Cleveland, and Mr. George B. Thomas, who was an instructor in the same laboratory, resigned to take a more advanced instructorship at Colorado College. This leaves Mr. C. W. Green as our senior instructor in the electrical engineering laboratory. He is aided by the following assistants: Mr. F. G. Perry, Technology, 1909, who was assistant for the last half of last year; Mr. C. L. Dawes, Technology, 1909, who was assistant in physics during last year; Mr. H. P. Thomson, Washington University, 1910; Mr. F. R. Lufkin, Technology, 1910; and Mr. Ralph M. George, Princeton, 1908, and Technology, 1910. Messrs. Howard Agee, Pennsylvania State College, 1910, and L. N. Downs, Technology, 1910, are assistants in the standardizing laboratory; Mr. Vernon Foster, University of Kansas, 1910, is assistant in physics, associated with Professor Laws' work in electrical measurements. Messrs. H. L. Burgess, R. C. Glancy, C. H. Gray and I. H. Van Horn, who were assistants in electrical engineering last year, all enter commercial employments, and Mr. E. P. Slack, who was also assistant in Electrical Engineering for the first half of last year, went into the research work of the Carnegie Nutrition Laboratory, in which many electrical processes are utilized.

At the regular meeting of the American Institute of Electrical Engineers held in New York city on the evening of Friday, October 14, a paper was read by Dr. Harold S. Osborne, who was graduated from Course VI. in 1908 and received the degree of Doctor of Engineering from the Institute at last commencement. The paper gave the results of the research set forth in his thesis. The paper was discussed by Messrs. Henry Morss, Course VI., 1893, Percy H. Thomas, Course VI., 1893, G. I. Rhodes, Course VI., 1895, besides various other distinguished electrical engineers, including Dr. Charles P. Steinmetz.

**DEPARTMENT OF MINING ENGINEERING.**—The summer school in mining engineering was held around Lake Superior and in Canada for one month, beginning June 10. Places visited were Niagara Falls, electric smelting and power plant; Mesabi iron district of Minnesota, iron mining and washing; Duluth, Minn., iron smelting; Houghton, Mich., copper mining, concentration and smelting; Sudbury, Ont., nickel mining and smelting, and Cobalt, Ont., silver mining and concentrating. The party consisted of twelve, and was in charge of Professors Richards and Bugbee and Mr. Hayward. The whole trip was very interesting, and the members of the party were shown every favor at the different places visited. One very enjoyable feature was the water trip on ore boat from Ashtabula to Duluth.

Professor Richards after breaking up the summer school went west, and did not return to Boston until September. Most of his time was spent in Denver. He also visited Salt Lake, Great Falls, Chicago and Lake Superior in connection with his pulsator classifier and jig. Incidentally, he delivered lectures on ore dressing at Cobalt, Ont., Houghton, Mich., Coleraine, Minn., Great Falls, Mont., and Joplin, Mo.

Professor Bugbee and Mr. Hayward returned to Boston, the former to spend his summer in work on "Notes on Assaying" and the latter to work on the translation of Borchers' "Huttenwesen."

Professor Hofman spent the summer at the Institute, working on his book on metallurgy and getting a little recreation from a vacation in the western part of the state and a sea trip to Savannah.

Professor Locke made a professional trip to Japan and Korea. In Tokio he was given a Japanese banquet by the mining en-

gineers of that vicinity. He also met several Tech men who are located there, but was unable, through a series of mishaps, to get a regular meeting of these men.

Changes in the laboratory have not been great, owing to the inability of space to hold any more machinery. A new horizontal polishing head for metallographical work and a new tool post grinder have been installed, and a large number of smaller tools have been added to the supply. Through the kindness of Professor Richards a new two-compartment Richards pulsator jig is being installed for class work. The usual summer work in repairing the laboratory apparatus has been done.

The demand for graduates was sufficient to give employment to practically all of the graduating class who were willing to take whatever position was offered.

New assistants this year are Mr. H. R. Perry and Mr. B. S. Wohlgemuth. Mr. F. Jaeger, who was assistant in metallurgy last year, has taken a position with the American Smelting and Refining Company at Maurer, N.J., and Mr. E. T. Almy, who was assistant in assaying, is on civil engineering work in New Bedford. Mr. W. B. Hargraves, of the class of 1910, is private assistant to Professor Richards.

A large number of the old graduates have called at the mining department during the summer. Perhaps the most important visitor was Mr. Takuma Dan, of the class of 1878, who came with Baron Mitsui and eight other Japanese engineers who were connected with the Ashio Copper Company of Japan. Mr. Dan is one of our old Japanese students who has been successful in his native country in starting at the bottom and working his way up to the top of the ladder. During his stay he gave a banquet at the Hotel Touraine to his old professors at the Institute and to leading graduates. Other visitors have been M. C. Dunham, '03, from Central America; Robert Faulkner, '04, from Lebanon, Pa.; Professor Durward Copeland, '03, from the University of Missouri; Professor H. B. Litchman, '03, from the University of Alabama; Alexander Healy, '03, from Buffalo, Wyo.; J. C. Kinnear, '07, from Goldfield, Nev.; J. C. Glidden, '05, from Cerro de Pasco, Peru; R. B. Williams, '04, from Kelvin, Ariz.; Williams, '06, from Mexico; John M. McMillin, '07; M. W. Hayward, '06, from Mexico; W. M. Drury, '03, from Mexico; R. E. Dimmock, '04, from Sydney, Cape Breton; A. P. Watt, '06, from New Mex-

ico; R. P. Roberts, 1900, from Great Falls, Mont.; C. F. Willis, '06, from Lake City, Col.; Professor F. C. Lincoln, '00, from Butte, Mont.; A. L. Davis, '98, from Pittsburg, Pa.; E. E. Harrington, '06, from Chrome, N.J.; L. A. Loomis, '09, from Kelvin, Ariz.; F. W. Draper, '95, from Russia; H. R. Putnam, '09, from California; T. B. Black, '09, from Wickenburg, Ariz.

**DEPARTMENT OF ARCHITECTURE.**—Course IV., architecture, opens with much promise, not only in quantity, but in quality. The registration, including second, third, fourth and fifth years, numbers one hundred and sixteen,—the largest class in the history of the department. Of this number twenty-six are graduates of colleges, twenty-five have had from one to three years of college training, and the remainder come from high and preparatory schools. The special students, of which we have thirty-seven, make a very acceptable and important adjunct to our number. They bring with them the experience gained during two or more years in architects' offices. They have, perhaps, a greater appreciation of the practical value of a school training; and the influence of their presence is an additional stimulus on their less mature classmates.

The necessity for greater area properly to care for our classes is an old story, but a very true one to this day. We are obliged to run over into other rooms than the regular class-rooms to prepare for a single class, which on account of the complication of the tabular view cannot be divided.

Mr. R. J. Batchelder, holder of the 1909 travelling fellowship, has just returned after spending a little over his year in Europe. He brings home many drawings accomplished during these twelve months, and some of these drawings are now hanging on the walls of our exhibition room. They give good evidence of the value of foreign study to one capable of profiting by it.

We have been very fortunate in obtaining the services of Mr. Rowe, head of the Egyptian department in the Boston Museum of Fine Arts, to help Professor Sumner in his course in European civilization and art.

Professor Despradelle has recently returned from Paris, in the best of health, and in addition to his duties at Technology will for this year have charge of the advanced work in Design at the Harvard Architectural School.

The final number of the third volume of the *Technology Architectural Record* has just been sent forth. The usefulness of the magazine has steadily gained in recognition by the architectural profession. Through it the older students of the department have been brought back to be again in touch with their Alma Mater. The general results have amply repaid for the labor and money expended on this publication which is doing so much good for the Institute.

**DEPARTMENT OF PHYSICS.**—During the past summer the department has made very considerable additions to its collection of apparatus, of which the following are especially worthy of mention.

A Siemens and Halske alternating current ammeter and voltmeter of the Ferraris type, with large dials, together with an accessory transformer, are intended primarily for use in the lecture-room. These will serve the same useful purpose for alternating currents that the large Weston instruments have fulfilled for direct currents for a number of years past. As was the case with these last, the Siemens and Halske instruments have been purchased from the bequest of the late Mrs. Augustus Lowell. A Kelvin electrostatic voltmeter has also been procured and arranged for use in the lecture-room. A storage battery of 120 small cells will be used in connection with this and for other purposes, when small currents at high potential are needed.

A number of new patterns of vacuum tubes have been imported from Goetze, Gundelach and Mueller-Uri, and added to the already very large collection. There has been ordered from Steeg and Reuter, but not yet received, an important projecting apparatus for studying the phenomena of polarized light with crystals, as well as a number of valuable crystal sections. Several useful pieces of miscellaneous apparatus have been purchased of Kohl and of Fuess. From the Zeiss Company has been received a micro-planar objective of 35 mm. focal length for use in taking micro-photographs of fairly large objects.

There has also been received from Newton a very interesting collection of lantern slides illustrating the phenomena of liquid splashes as illustrating surface tension, taken from the original instantaneous photographs of Worthington.

In a recent article in the *New York Times*, copied into the



Boston *Transcript* for Sept. 20, 1910, occurs an extended description of experiments in progress at the City College relative to "weighing the earth" by the Cavendish method, using a torsion balance of the pattern devised by Boys, with a quartz fibre suspension. The article contains a statement to the effect that "the same sort of experiment has never been made here in this country," so far as known.

It may be of interest to Technology men to know that experiments of this character with a like apparatus were carried on in the Rogers Laboratory as many as seven years ago, and that for several years past the apparatus has been set up and shown regularly in the lecture-room. The movement impressed upon the small suspended sphere in virtue of the gravitational attraction between it and the large lead spheres of the apparatus is made clearly evident to a class of some three hundred students.

Important extensions have been made in the equipment of the Electrochemical Laboratories.

To provide the necessary facilities for the increasing number of students electing work in the Laboratory of Applied Electrochemistry, a new 50 kw. transformer has been purchased of the Pittsburg Transformer Company. A special switchboard to accompany this transformer has been designed by Professor Derr, by means of which voltages in steps of ten volts and extending from ten to two hundred and twenty volts are available. A similarly designed switchboard has been in constant use with the 50 kw. transformer originally installed in the laboratory, and has proved exceedingly satisfactory for electric furnace operations.

To furnish the additional power now needed, a 75 kw. transformer has been ordered by the department for installation at the power-house.

It has been found necessary to transfer a portion of the laboratory designed for electrochemical measurements to the Laboratory of Applied Electrochemistry in order to provide the necessary space for the 50 kw. transformer and its accessories.

**DEPARTMENT OF ENGLISH.**—Professor Pearson is absent on leave for a year from the Institute. He is devoting his time to historical studies, at present in Washington. He has just completed a book on the Life and Letters of John M. Forbes, and is at work upon another biography of the Civil War period.

From the University of Illinois, where he has been teaching, Mr. A. J. Tietje, A.B. '03, A.M. '04 (Cornell), comes as instructor for a year at the Institute.

Again, this year, freshman work starts with five or six weeks' exercises in thinking,—logic, as it might technically be termed,—as introduction to later exercises in writing. The pamphlet of eleven lessons is a revision and extension of last year's.

Among third-year options a course is given, for the first time, on public speaking, conducted by Professor Robinson.

#### DEPARTMENT OF CHEMISTRY AND CHEMICAL ENGINEERING.—

At the close of the year the following members of the instructing staff resigned to accept positions in the technical field: Messrs. C. W. Gram, J. R. Nichols, L. J. D. Healy, J. A. Christie, B. H. St. John, E. L. P. Treuthardt, H. P. Gurney. Their places have been filled by the appointment of the following members of the class of '10 to assistants' positions: Messrs. J. M. Bierer, R. E. Gegenheimer, R. O. Fernandez, L. W. Waters, L. Rosenstein, H. L. Lang, F. F. Rupert. Mr. C. E. Peel, a graduate from New Hampshire College, has also been appointed assistant in Technical Analysis. Dr. F. H. Heath has accepted a position at the Case School in Cleveland, and Dr. F. G. Keyes, a graduate from Brown University, has been appointed as instructor in Theoretical Chemistry. Dr. Warren K. Lewis, a graduate from Course X., has been appointed assistant professor of Industrial Chemistry, and will have immediate charge of the laboratory instruction in order to free a portion of Dr. Walker's time, to be devoted to the direction of the work in the Research Laboratory of Applied Chemistry. The assistant's position in Industrial Chemistry, held last year by Mr. J. J. Elbert, who is now studying in Germany, will not be filled for the present. The department is fortunate in securing the services of Dr. Lewis, who combines an experience in the industrial field with unusual fitness for the work of a teacher.

The staff of the Research Laboratory of Applied Chemistry suffered a serious loss during the last year in the sudden death of Mr. Milton T. Jones, Jr., who had shown himself to be a resourceful, intelligent, and exceedingly industrious investigator, with marked promise for a successful future. These valuable scientific traits were combined with a singularly strong and delightful

personality, which gained for him the respect and deep regard of all with whom he was associated.

The staff lost by resignation Messrs. Allan Hirsch and J. A. Coye. The research associates so far appointed for the present year are Messrs. R. E. Drake, S.B. '09, Lothar E. Weber, Ph.D. (Harvard and Berlin), C. P. Randolph, M.A. (University of Texas), C. Almy, Jr., '10 (and Harvard, A.B.), W. A. Patrick, S.B. (Syracuse University).

At the close of last year Dr. F. J. Moore received deserved promotion to an associate professorship in Organic Chemistry, and Dr. E. B. Spear, to an assistant professorship in Inorganic Chemistry. Dr. Moore has also been appointed lecturer in Advanced Organic Chemistry at Harvard for the present year.

At the inauguration of President Burton, of Smith College, the honorary degree of Doctor of Science was awarded to Mrs. Ellen H. Richards. This fitting tribute to Mrs. Richards' long devotion to chemical science, and her fruitful efforts to secure a better recognition of the helpfulness of chemistry and related sciences in the applications of domestic science is a source of sincere pleasure and gratification to her very wide circle of friends.

Through the generous assistance of Dr. F. J. Moore the Institute is able to employ two research assistants in Organic Chemistry for the present year. Miss Ruth M. Thomas, S.B., and Mr. R. R. Taylor, '10, have been appointed to these positions, and will work under Dr. Moore's direction. Miss Adaline M. Ware, a graduate of Simmons College, is also serving as private secretary and assistant to Professor Moore this year.

During the summer a small room for storage purposes has been built on the roof of the Pierce Building for use in connection with the Industrial Laboratory, and the room formerly used in common by the staff of the Research Laboratory of Applied Chemistry has been subdivided by partitions, to increase efficiency in working upon the various problems. This laboratory has opened with the prospect of increasing success.

Professors Noyes, G. N. Lewis, Bray, Sherrill, and Thorp spent the whole or a part of the summer in Europe. Mr. Hall and Dr. Williams have been busy upon the translation of Ostwald's "Einführung in der Chemie," a book intended for secondary school use which presents many interesting features. Mrs. Richards has been writing a text-book on Water Analysis. About the close

of the year Dr. F. J. Moore's excellent text-book on "Outlines of Organic Chemistry" appeared, and the third volume of Dr. Mulliken's book on the "Identification of Pure Organic Compounds" was issued early in the summer.

Dr. Gill has been the victim of an attack of appendicitis, but is now well on the road to recovery after surgical treatment.

Dr. Walker was elected president of the American Electrochemical Society in the spring. Dr. Noyes has been appointed lecturer on Chemical Research at Clark University. Professors Noyes, Walker and Talbot are members of the Committee on Organization of the Eighth International Congress of Applied Chemistry, to be held in New York in 1912. Professor Walker has been elected president of the Section of Electrochemistry, and Professor Talbot vice-president of the Section of Analytical Chemistry.

Dr. Fay has given a course of instruction at the Watertown Arsenal in Metallography and allied topics, which was attended by some of the younger officers of the service.

**MECHANICAL LABORATORIES.**—In addition to the usual summer cleaning the floors of the wood-working, filing and machine-tool laboratories, lavatory and hallways have been thoroughly painted. The walls and ceilings of the wood-turning laboratory, lavatory and hallways have been painted white, resulting in a great improvement in the diffusion of light.

The changes and additions to the equipment are as follows:—

In the machine-tool laboratory a complete set of electric pyrometers has been attached to the hardening furnaces, making exact temperature control possible. Much more efficient work can now be done, and many investigations of hardening processes can be made. Four old engine lathes have been replaced by new and modern machines supplied by the F. E. Reed Company at a very reasonable price. New small tools have been added to the equipment of the filing laboratory and to the tool-room equipment.

Some new small tools have been added to the equipment of the wood-turning laboratory.

The forging laboratory has had its equipment repaired, and four new anvils have replaced old worn ones.

Four moulding machines have been added to the foundry equipment. A 10-inch power rammer and an 18-inch roll-over machine,

both fully equipped with vibrators and all other appliances, were supplied by the Tabor Manufacturing Company at a very reasonable price. Two machines illustrating the use of stripping plates, completely equipped with patterns and plates, were donated by the Saco & Pettee Machine Shops of Newton Upper Falls. These machines will enable the students to obtain experience in the use of typical modern moulding machinery, and will serve as a good introduction to the illustrated lecture work in the same field. A new gas furnace for melting white metal is soon to be installed, and it is hoped that funds may soon be available for a new iron melting plant. The archway connecting the moulding and melting rooms has been enlarged, and four electric lights have been added, resulting in greater convenience and much better light.

A turbine blower, presented by the L. J. Wing Manufacturing Company, has been installed in the boiler-house with a view of utilizing a cheaper fuel with a resulting reduction of smoke and increased economy.

Mr. Robert H. Smith, instructor in machine-tool work, has just published two text-books of a series of three on machine work, the "Elements of Machine Work" and "Principles of Machine Work." The third, "Advanced Machine Work," is now in preparation. These text-books are written for the student, teacher and apprentice, and each is complete in itself. They will be used in the classes in chipping and filing, metal turning, and in machine-tool work, to supplement the regular oral instruction, and it is confidently expected that their use will enable more and better work to be done.

**DEPARTMENT OF MODERN LANGUAGES.**—The statement made in the July REVIEW in reference to the Department of Modern Languages was in error which we wish to correct herewith. The department is to be divided for instruction purposes into two branches: one, German, under Professor Vogel; two, Romance languages, under Professor Langley. The general administration of the department will be under Professor Vogel.

**DEPARTMENT OF ECONOMICS AND STATISTICS.**—At the commencement exercises of the University of Vermont in June, Professor Davis R. Dewey received the degree of LL.D. During



the summer he gave two courses in economics at the summer school of Columbia University, from July 6 to August 17.

On July 15 Professor Carroll W. Doten was appointed chief investigator of the Massachusetts Commission on Compensation for Industrial Accidents. This commission is required to report a bill to the General Court on or before the second Wednesday of January.

---

### Institute Charter Granted Fifty Years Ago

---

On Monday, April 10, 1911, occurs the fiftieth anniversary of the granting of the charter to the Institute of Technology. Although no definite announcement has yet been made, it is understood that the matter is in the hands of a joint committee of the Corporation, Faculty, and alumni, and that plans are being made to commemorate this anniversary.

---

### Change in Calendar

---

The calendar of the school year has been changed, so that now the second term begins January 30 instead of February 8. The recess between the first and second term is abolished, and a two weeks' examination period has been substituted. School work closes May 20, eight days earlier than last year. Commencement occurs June 6.

---

### Publication of Review Delayed

---

The publication of the October number of the REVIEW has been purposely delayed in order that it might contain news connected with the opening of the Institute. Next year there will be no October number, the first number of the school year being the November number.

## NEW MODERN LANGUAGE REQUIREMENTS

---

As the reorganization of the Modern Language Department has somewhat changed the distribution and requirements in foreign languages, it may be of interest to have the new conditions briefly summarized.

For admission to the Institute an examination in both German and French is required. The preparation for these examinations is expected to be acquired in four or five recitations per week during two years at the preparatory school. These admission examinations are termed elementary German and French. During the first year at Technology every student is required to continue German, unless he intends to enter the course in Architecture. French is continued during the first year by all students who plan to enter the course in Architecture.

In the second year all students in courses V. and VIII. continue the study of German throughout the year, while those in courses VI., X. and XIV. continue the study of German during the first term. No foreign language study is required during the second year in courses I., II., III., IV., IX., XI., XIII.

Optional courses of advanced grade are offered in both German and French during the third year. These advanced courses furnish opportunities for the study of German and French literature as well as for the practical use of the languages in writing and speaking.

Opportunities for studying Italian and Spanish are also offered for those who wish to extend the range of their linguistic training.

---

At the inauguration of the Rev. Marion LeRoy Burton as President of Smith College, October 12, "Ellen Henrietta Richards, Bachelor and Master of Arts of Vassar College, Bachelor of Science of the Massachusetts Institute of Technology, and for one-quarter of a century instructor in Sanitary Chemistry," received the degree of Doctor of Science.

### NEW ASSISTANTS

---

The following new assistants were appointed this fall: Civil Engineering Department, Carroll R. Benton, Walter K. Brownell, Eldon S. Clark, Ralph W. Horne, John P. Wentworth; Department of Mechanical Engineering, Leroy E. Briggs, Dean Peabody, Lawrence Chapman, Luke E. Sawyer, Arthur P. Truette, Chester W. Wilson, Jesse J. Eames, William H. Wengert; Department of Chemistry, organic, Walter Spaans, Richard R. Taylor, Ruth A. Thomas; inorganic, Harold L. Lang; analytical, Ralph E. Gegenheimer, John M. Bierer, Richard O. Fernandez; industrial, George P. Lunt; theoretical, Ludwig Rosenstein, Frank F. Rupert; technical analysis, E. M. H. Follansbee; food analysis, Lewis W. Waters. Department of Electrical Engineering, H. F. Thomson, Ralph M. George, Fred R. Lufkin, Loren J. Downs, Jr., Howard Agee, Chester L. Dawes; Department of Physics, F. L. Hunt, Vernon S. Foster, Joseph P. Maxfield (electrochemistry), Walter W. King (heat measurements); Laboratory of Physical Chemistry, Robert H. Lombard, Wilford H. Winninghoff; Department of Naval Architecture, Gordon G. Holbrook.

The assistants who have resigned to go to other fields are as follows: Department of Civil Engineering, H. B. Alvord, H. B. Luther, R. L. Cary, F. R. Faulkner, A. L. Shaw; Department of Mechanical Engineering, S. F. Hatch, R. B. Weiler, C. A. Edmonds, R. C. Latimer, J. W. Nickerson, R. L. Smith, J. A. Willard; Department of Chemistry, E. L. P. Treuthardt, C. W. Gram, H. P. Gurney, J. J. Elbert, B. H. St. John, J. R. Nichols, L. R. Forest, J. A. Christie; Department of Electrical Engineering, I. H. Van Horn, G. H. Gray, R. C. Glancy; Department of Physics, W. C. Read, C. L. Dawes (transferred); Laboratory of Physical Chemistry, F. L. Hunt (transferred); Department of Naval Architecture, H. S. Wonson.

---

The REVIEW is printed on paper specially made for it. Through oversight, the manufacturers ran low on this stock, and publication has been much delayed thereby.

## PROFESSOR LELAND TO GO TO PACIFIC COAST

---

The resignation of Professor Walter S. Leland is announced, to take effect February 1, in order that he may take a position with the Atlantic Gulf and Pacific Company in their San Francisco office. Professor Leland was graduated from the Department of Naval Architecture of the Institute in 1896. Soon after graduation he entered the Navy Department as draughtsman, being located at San Francisco and at Boston. In September, 1900, he was appointed instructor in Naval Architecture, and in October, 1905, he was appointed Assistant Professor of Naval Architecture. From 1906 to 1909 he was secretary of the Society of Arts.

Professor Leland has charge of instruction in ship drawing and design, including model making and mould loft work and lectures on ship construction and drainage and ventilation of ships.

C. H. P.

---

## International Congress of Applied Chemistry

---

An International Congress of Applied Chemistry which will hold meetings in Washington and New York in the fall of 1912 has just been organized with a number of prominent Tech men holding important positions. Professor H. P. Talbot, '85, is vice-president of the section of analytical chemistry. Arthur D. Little, '85, is president of the section of cellulose and starch. L. P. Kinnicutt, '75, has entire charge of section on sanitation and sewage, and Professor William H. Walker, head of the Research Laboratory of Industrial Chemistry at the Institute, is president of the section on electrochemistry.

This congress will be one of the most important gatherings of world-wide scientists ever held in America. The last congress was held in London, England.

## CO-OPERATIVE COLLEGIATE EDUCATION

---

An interesting educational experiment is now being tried in Boston through the co-operation of Harvard, Tufts, Technology, Boston College, Boston University, Museum of Fine Arts, Wellesley College and Simmons College. The idea is to offer an opportunity to both men and women to secure the equivalent of a college education. Courses have been arranged so that the class work comes in the evenings, afternoons and Saturdays, the evening courses intended particularly for those who are otherwise engaged during the daytime, and the afternoon and Saturday courses being available for teachers of public schools. The cost of tuition has been put at a very low figure. The professors who will represent Technology will be Professor Louis Derr on Experimental Electricity, Professor H. W. Smith on Applied Electricity and Professor John O. Sumner on The Civilization and Art of the Roman, Byzantine, Gothic and Renaissance Ages.

---

## Major Briggs Treasurer of Advisory Council

---

Mr. Ralph S. Franklin, '02, formerly treasurer of the Advisory Council on Athletics, has resigned his office because he could not give the amount of time to it that he felt it should have. Major Frank H. Briggs, '81, was elected to fill the vacancy, and for this reason resigned as one of the appointed members of the Advisory Council. Dr. J. Arnold Rockwell, '96, was elected Chairman, to succeed Major Briggs. Dr. Rockwell holds the Institute record for the quarter-mile, which he covered in 51 1-5 seconds. He is the giver of a handsome cup for the winner of the quarter-mile at the Tech spring meet. At the last meeting of the Alumni Council Dr. Allan W. Rowe, '01, was appointed to the Council.



## “OUR SECRETARY IS A DEAD ONE”

---

The REVIEW occasionally receives letters from individual members of local alumni associations commenting on the good work of their association, or the lack of it. A letter received recently from such a one makes the statement: “Our secretary is a dead one. Can’t you stir something up?”

It takes a great deal of an effort in the busy fall months for a secretary, no matter how loyal he may be, to plan a winter’s campaign almost single-handed and work up the enthusiasm necessary to get out a crowd, and it comes especially hard if the work is put off until late in the season, when the men are occupied with other matters. If you who read this have accepted the responsibility of secretaryship in a local alumni association, start something right now and get the ball rolling in good season. During recent years a large number of the younger men have located in various alumni territories. These men will be found not only willing, but eager to work for Technology and the association with which they are identified. Give them a chance, put them on committee work, make them assistant secretaries, do something to stir up the interest of both the older and the more recent graduates. The alumni office will be glad to give you a list of the young men in your territory.

---

### New Associate Members

---

The following former students were elected associate members of the Alumni Association on the dates indicated:—

Oct. 17, 1910: Reid Dana Macafee, '10; Edward Stanley Safford, '68.  
Nov. 3, 1910: Kenneth E. Carpenter, '09; Stuart Chase, '10; Charles E. Creecy, '10; Arthur E. Hill, '81; Elwell R. Jackson, '10; Kenneth Leavens, '10; John M. Longyear, '10; Alonzo L. Moses, '09; William Morgan Peters, '77; George M. Roads, Jr., '10; Stewart S. Southgate, '10; Arthur L. Stein, '10; Alice S. Willoughby, '10.

## FOUR THOUSAND COPIES OF THE "REVIEW"

---

Three years ago the circulation of the REVIEW was 2,500 copies. The regular circulation today is in excess of 4,200 copies. The establishing of a monthly REVIEW having nine numbers during the year, instead of four, greatly increases its value as an advertising medium. Advertisements will be taken for publication in the four magazine numbers only, at the same rate as heretofore, or in the nine issues at an increase of about 60 per cent. over that of the quarterly numbers, although the number of copies issued will be 125 per cent. greater.

If you are interested in a selling problem, think this matter over. Advertising rates are as follows:—

For the four magazine numbers only, the yearly rate is: professional card, \$10;  $\frac{1}{4}$  page, \$35;  $\frac{1}{2}$  page, \$60; page, \$100.

Entire nine issues, per year: professional card, \$16;  $\frac{1}{4}$  page, \$56;  $\frac{1}{2}$  page, \$96; page, \$160.

---

## Mr. Morss on Executive Committee of Corporation

---

At a meeting of the Corporation of the Institute held recently, Everett Morss, '85, term member of the Corporation, was elected to fill the place of Frederick W. Wood, '77, resigned. Mr. Morss was a member of the Walker Memorial Gymnasium Committee, and has been chairman of the Income Fund Committee since it was organized. This committee has already turned over to the treasurer \$206,600 for the general purposes of the Institute. Mr. Morss was elected president of the Alumni Association in 1906, and was re-elected in 1907. During his presidency the alumni office was founded and many important advances were made. He was elected a term member of the Corporation in 1909. Mr. Morss is president of the Simplex Electrical Company and of the Morss & Whyte Company, and is vice-president of the Simplex Heating Company.

## FOR IMPROVING TECH FIELD

An article in the July number of THE TECHNOLOGY REVIEW on the athletic policy of the Institute attracted much favorable comment. It is clearly shown that the Institute is in an enviable position as far as athletics is concerned, and that we are free from the demoralizing influences that are besetting our sister colleges. This condition of things is largely due to the energy and wisdom of the members of the Advisory Council on Athletics and the co-operation of the student members of the Athletic Association. In order that we may get greater benefits by improving our present resources, the Advisory Council attempted, during the past year, to raise the sum of \$5,000, principally for improving the athletic field, building a new grand stand with modern dressing-rooms and baths, and putting the field in good condition to yield the association a larger revenue.

It has received \$1,887 in amounts as follows: one gift of \$1,000, five gifts of \$50, eleven gifts of \$25, fifteen gifts of \$10, thirty-eight gifts of \$5, eight gifts of \$2, six gifts of \$1.

This sum, however, came almost entirely from men who were interested in athletics as undergraduates. The committee, through its treasurer, Major Frank H. Briggs, is applying to the whole alumni body to make up the needed amount, and we trust he will meet with a generous response, for, as Dr. Rockwell, '96, says in his article on "A Sane Athletic Policy," "We believe that, when the alumni realize the fortunate position of Institute athletics today, they will not only feel pride in this condition, but will assist in financing the enterprise heartily. The intellectual, social and moral growth of the Institute is more dependent upon the perfectly developed man than on any other element in the whole scheme of its education."

The policy of the Alumni Council in holding monthly meetings has given that body an opportunity to consider many matters which have in the past been crowded out by the press of other business. The last meeting of the fiscal year will be held on January 2, when reports will be due.

## MISCELLANEOUS CLIPPINGS

With the passing of William Harmon Niles the Massachusetts Institute of Technology loses a teacher of unusual merit; the science of geography, a most brilliant lecturer and exponent; and New England, one of its most genial scientific leaders. Massachusetts-born, his early training as a teacher was in a little red school-house in the Worthington hills, while his later activities in educational work, and in that larger field, the lecture platform, have been exercised mostly within New England. Here his loss will be keenly felt. Three important institutions will miss him, as well as thousands of those who had been his students and for whom he had always a cheery word. Professor Niles began his scientific work under the care of the great master, Louis Agassiz, and, catching the principles of his teacher, he added value to his work through clearness, and oftentimes eloquence of speech and grace of manner. As an instructor, he was loved by his pupils; and as a public speaker, popularizing and spreading abroad the principles of science, he was among the most popular of his day. His activity has been enormous, with professorships that he has held thirty-five, thirty and twenty years, respectively, in parallel work, besides his lectures, a hundred a year at times, and much work of investigation and special writing. And till his final illness had so closed about him that he could no longer leave his chamber, he was daily at his desk.—*Boston Transcript*.

Conservation seems to have become a synonym for political mix-up. What with its varied interpretations as applied to a national policy, and the fuss and feathers that each interpretation has aroused, people have grown to think that conservation means care only of our forest resources. "What about the conservation of health and energy?" asks Mrs. Ellen H. Richards, of Boston. Surely without health the forests would be as useful to us as canary-bird seed to a cow. That is the kind of conservation Mrs. Richards means. Now the aforesaid Mrs. Richards knows whereof she speaks. Savants will tell you, if you "squint the sceptic eye," that she ranks in the van of America's scientific women. Firstly, she is president of the American Home Economics Association, which has for its object the study of social and economic conditions in their relation to domestic life. Then, too, she has been a professor of sanitary chemistry at the Massachusetts Institute of Technology. She held that post for more than a quarter of a century. Born at Dunstable, Mass., in 1842,

she married Professor Robert Richards, of Boston, in 1875, several years after her graduation from Vassar College and the Massachusetts Institute. At the time of her marriage she was already favorably known for her researches in water and oil analysis, in which subject she is now a specialist. She has a dozen scientific text-books to her credit. But coming back to the public health. She has coined a new word to tell what she stands for,—“euthenics,” the hygiene of the present, as distinguished from “eugenics,” the hygiene of the future. She says that three million people are on the sick list in the United States,—one-third needlessly. This entails an appreciable loss of service to the community. She advocates control of the public health by the Federal Government.—*Leslie's Weekly*.

In the great company of travellers now returning from summer holidays, or more purposeful journeys, in Europe, there are many individuals competent to make intelligent comment upon different items in our American civilization, and their remarks, at landing, are often worth considering.

For instance, here comes Mr. S. M. Gunn, lately appointed to the chair of Sanitary Biology in the Massachusetts Institute of Technology, who has been looking into the sanitary conditions of European cities. He says that, in spite of the long strides in advance that such work has recently made in America, it is still not abreast of the movement in France and Germany. The popular appreciation of the movement is far greater in those countries, he finds; it is easier to enforce sanitation laws there. It is true that there is a great deal of talking on this subject in America, but possibly it is also true that in those older countries the population has got a clearer understanding of the fact that it is not enough to resolve and resolve, or even to appropriate funds; only by the intelligent and sincere co-operation of the public with the authorities can the betterment be attained.

Professor Gunn was especially struck by the greater regard paid by manufacturers in France and Germany to the hygienic needs of their work-people, and the advantage accruing to the manufacturer in the better guarding of his employees from dangers to their personal safety while at work as well as to their health. The stronger pressure of employers' liability laws in Europe than in this country may account for this fact in some degree, but there is no doubt that employers everywhere are reckoning safe and sanitary surroundings as very important factors in the efficiency of the workman, which bears directly, of course, upon the quantity and quality of his product, in which the manufacturers' profit lies.

At present, American cities are not gaining any large number of citizens



from either France or Germany. Our present great immigration is drawn from races which have survived and multiplied in spite of their general attitude toward the principles of sanitation rather than by reason of it. Local health officers in any big American city find their hardest work among such new-comers, who nest together in ignorant fear of water and fresh air. In European communities of such are found the breeding-places of pestilence. Augean stable-cleaning is light work compared with the task of opening the windows of ignorant minds and house-cleaning a mischievous heredity. But that is the task in this country, where a part of the population still harbors so many dangerous germs of bad habit and unintelligent natural tendency. The latest and greatest benefits of scientific discovery in sanitation are placed at the service of our American communities, but their adoption by all the people is a consequence of comparatively slow attainment. And, even among the more intelligent members of a people geared to the highest speed in habits of daily work and dollar-chasing, indifference and carelessness help to clog the machinery of improvement.—*New York Sun*.

*Science* prints in a recent number the thoughtful and stimulating "Criticism of the Engineering Schools," given before the Stevens Engineering Society by Professor Dugald C. Jackson, of the Massachusetts Institute of Technology,—a criticism which chiefly bears upon the fact that engineers display too little public spirit and are not so conspicuously associated as are other public men with political movements tending toward the general welfare. "Have the engineering school curricula in this country been adequate in this particular?" asks Professor Jackson; "and have they brought to their students the breadth of human vision and the altruistic motives required for these activities?" He hesitates to answer in the affirmative, and, the situation standing as it does, inquires what truly humanistic studies can be rightfully excluded from the list useful as preparation for engineering professional life. "Our solicitude," he says, "need only be exercised to see that sufficient of the mathematical and physical sciences, the historical and economic studies, and the languages make constituent parts of the curriculum, and that the spirit and order in which these are studied are right. It is probably in the latter that we are erring. The sciences, historical and economic studies, and languages are well represented in the curricula of many of our engineering schools, but there is a failure to impress on the mind of the student that the economic subjects are intimately related with the work of his profession. Perhaps here lies the explanation of the apparent failure of engineers to play their reasonable share in civic affairs. If that is the explanation, our methods of teaching ought to be promptly reformed."—*Kennebec Journal, Augusta, Me.*

One of the most interesting and widely important papers for a season or two is that by Professor W. T. Sedgwick and J. Scott MacNutt\* on the general improvement in mortality rates due to the use of purified or bettered water supplies for public consumption. The article is published in the recently issued number of the *Journal of Infectious Diseases*. Consideration of water supplies in its modern close relations to the public health seems to have had its impetus from certain observations made independently, but almost simultaneously in 1893 by Dr. J. J. Reincke of Hamburg and Hiram F. Mills of Lawrence. Hamburg was taking the water of the Elbe, and Lawrence that of the Merrimac River. Serious outbreaks of disease had called attention of the authorities to the necessity of a better water supply, and its introduction was watched with extreme closeness. Both Mills, who is a member of the Massachusetts State Board of Health, and Dr. Reincke were struck by the fact that the general health conditions, as manifested by the mortality rates, were improved. At about the same time Allen Hazen † of New York, ranking exceedingly high as a water engineer, gave attention to the same subject. Some years elapsed before he published his results, the International Congress of Engineers at St. Louis in 1904 being the important setting forth of his studies, and here he formulated a numerical expression for the comparative effect of the purification of the water supply upon typhoid fever mortality and total mortality. To the first-named discovery sanitarians have given the name Mills-Reincke phenomenon, and for convenience in nomenclature Sedgwick and MacNutt have called the suggestion of comparative relationships the "Hazen Theorem."

Hazen stated that it might not be easy to show how the water is related to deaths other than those by typhoid, but says, "It may be that a good water supply, used freely and with confidence, results in a better tone in the systems of the population, and so indirectly in a lower death-rate, and that a part of the reduction is represented by diseases having no recognized connection with the quality of the water supply." This conclusion is important and far-reaching, and is without doubt the key to further betterment of the public health, but it has not heretofore attracted the attention that it should receive. Sedgwick and MacNutt have sought to remedy so far as may be possible at the present moment this neglect by carrying forward the investigation some steps, and bringing the results of their investigations to the attention of the sanitary world. Hazen applied to the problem quantitative methods; he essayed to answer the question, "To what extent is the general death-rate reduced?" Sedgwick and his collaborator take up a review of the evidence and con-

\*Class of 1908, Assistant Biologist, Pittsburg Typhoid Fever Commission.

†Class of 1887-1888, Consulting Engineer, New York city.

sider the question, "In what particular diseases does this reduction take place?" The former portion of the work is based on the knowledge that comparatively few students of public health are aware of the extent of the studies of Reincke and Mills and no one had hitherto attempted to secure any thorough confirmation of their results. The paper therefore reviews the evidence already presented by the three sanitarians connected with the research together with a discussion of fresh material.

. . . . .

A most surprising result of the study of Sedgwick and MacNutt is the disclosure of the remarkable relation subsisting between polluted water and infant mortality. The graphical charts of these authors bring out the principal facts most strikingly of important decreases following purification of supply. This is a matter that students of preventive medicine will find an interesting one to follow, and they can doubtless shed much light on the solution of one of the most serious sanitary problems of the time. Diarrhoeal and gastro-intestinal disorders have a relation to polluted water second only to that to contaminated milk. In tuberculosis the evidence, though less striking, is interesting and suggestive. There can be little doubt that a considerable portion of the decline in mortality from this disease in Lawrence and Lowell was due to the change in the water supply. For pneumonia and the remaining infections the decline is evident on the improvement in the supply. With reference to pneumonia an interesting by-product of the charts is the upward tendency constantly of this disease in the American cities. Although the purer water affected and lowered the rate, it still seems to have the same kind of upward tendency that it had before.—*Boston Transcript*.

Early attempts to solve the problems of banking in this country, particularly those connected with the issue of notes, are described in a volume just published by the National Monetary Commission, under the title "State Banking before the Civil War." The authors, Professors Davis R. Dewey, the well-known economist of the Massachusetts Institute of Technology, and Dr. Robert E. Chaddock, of the University of Pennsylvania, have made use of the original documents in the preparation of this work.

. . . . .

Many banks, Professor Dewey finds, were established on an inadequate specie basis, loans often being made to stockholders to meet payments on their subscription. For the period 1800 to 1860 it has been estimated that not more than one-third and possibly not more than one-fifth of the nominal capital of Rhode Island banks was paid for in any other way than stock notes. The specie paid in one day, frequently borrowed for the purpose, was withdrawn the next day, and the notes of stockholders

were substituted. In Maryland the use of instalments and stock notes tended to attract an unsubstantial and speculative class of stockholders. "If the bank fared well, the stockholder enjoyed dividends on the whole amount of the stock; if it failed, he could absolve his indebtedness to it by paying in his certificates of stock. Thus he had all to gain and was irresponsible for losses."

The fear of fostering a moneyed class led some of the states to insert elaborate provisions in the bank charters providing that the initial subscription be opened in different parts of the state, and limiting the number of shares which could be taken by any one person. This restriction proved of little service, as shares could be taken out by attorney. Pennsylvania charters show the wide-spread jealousy and fear of foreign ownership as well. The state, in 1825, in rechartering the Bank of North America, prohibited any foreigner, save a citizen of Holland, to hold stock unless he had declared his intention of becoming a citizen.

. . . . .

But little protection was given to the note issues of the banks. Many of the acts of incorporation did not specifically limit the amount, but covered the point indirectly through limitations in the amount of indebtedness, including deposits. At first this limitation was generally set at two or three times the capital, a grant so generous as to amount to practically no limitation whatever.

"In the earliest charters there was no express provision made for the redemption of notes, nor was there any penalty for non-redemption. The issuing of notes was generally regarded as the principal object of a bank's existence instead of an incidental function. The limitation of note issues to a certain proportion of the capital, which was often represented by stock notes of shareholders rather than by solid funds, was of little consequence. Practically, the only security for convertibility lay in the liability imposed upon stockholders, and more particularly upon directors, in case of failure or mismanagement. Indeed, many in the earlier part of the century considered that it was improper and injurious to call upon a bank for specie in payment of its bills. 'Brokers who sent home the bills of country banks were denounced as speculators and blood-suckers, whose extirpation would be a public benefit.' Respectable men defended the conduct of banks in interposing obstacles to the payment of their notes to brokers who had bought them up to discount. A Boston broker was brought before the grand jury of Vermont for demanding payment in specie for bills of one of its banks, on the complaint of the attorney-general that he was guilty of an indictable offence."

. . . . .

The problem of redemption was solved for New England by the Suffolk Bank of Boston, which undertook to establish a clearing-house for bank



notes. Since 1814 the New England Bank, in Boston, had been receiving the notes of other banks at a discount varying according to distance, but in no case exceeding 1 per cent., and on condition of a permanent deposit had been returning these notes to the issuing bank at the same rate of discount. This policy tended to reduce the circulation of outside banks, which had been fast crowding out the issues of the home banks. The Suffolk Bank now determined to undertake the redemption of foreign money according to the terms adopted by the New England Bank. In 1819 it voted that any bank placing \$5,000 on deposit there, with such further sums as would be sufficient to redeem its bills, should have the privilege of receiving its own bills at the same discount at which they were purchased. If a bank refused to make the deposit required, its bills were to be sent home for payment.

This attempt to dictate the terms of redemption aroused much ill-feeling on the part of the country banks. "When the Lincoln Bank, in Wiscasset, was called upon for redemption of \$3,000 of its notes, its office first tendered a Boston draft, which was declined. The cashier then sought delay by delivering small change and by the hour of closing the doors had counted out only \$500 in coins, nothing larger than twenty-five cents."

In its struggle with the country banks the Suffolk had to look to the other Boston banks for aid. A subscription of \$300,000 was raised by seven of the banks, to be used in sending home the bills of all banks out of the state, and also the bills of other banks as might be determined upon, the Suffolk Bank being chosen agent. In 1825 the system was modified so that country money was received at par instead of at a discount. In time under these terms all the banks of New England practically accepted the agreement. It has been calculated that in 1857 the circulation of New England as a whole was redeemed eight times annually.

When the Suffolk Bank finally gave way to the Bank of Mutual Redemption, organized in 1856 on a co-operative basis, its principle had been justified. "The bank had not labored in vain. It had found the currency of New England in a chaotic state, but by putting this principle into practice it had brought order out of confusion, and had compelled banks to keep themselves stronger than they otherwise would." . . . — *Brooklyn Daily Eagle*.

To the credit of the scientific motive, which of course governs in everything that is done at the "Tech," must be put the publication of the realistic pictures which adorn the latest number of the TECHNOLOGY REVIEW. Nothing but a stern sense of duty, almost equal to Harvard's idolization of "Veritas," could have induced the editors to insert such terribly veracious pictures of the heights of pulchritude, dress and un-



dress, and variations of costume, in which some of the classes indulged at their reunions last June.

It was a four days' junket that the class of '85 indulged in on the banks of Little Asquam Lake. "The spirituous adviser had little opportunity to work at his trade as chaplain for any sustained period," and "the results of the dress rehearsal ordered by the Gazabo" were "perfectly and completely overpowering." On another festal occasion when the men were "draped in their best parlor manners" there "was a hot tamale dance in the Recreation Hall with some music." Such costumes as were worn are said to have been "scientifically interesting because of the proofs that there is much beyond the infra-red and ultra-violet not previously discovered, and because, when well concealed by disguises, the general average of pulchritude was considerably raised." There is one photograph in this exhibit, entitled "After Twenty-five Years," which is a masterpiece of delineation of the joys of mixing cards, drinks and a corn-cob pipe.

It is not at all certain that, when Dr. Rogers came from the South and set up the "Tech" in Boston, he anticipated that any such junket as this would ever be the method of determining the value of applied science to the nation; and we do not recall reading any exhortation to anything of the kind in President Francis A. Walker's Political Economy. But it is difficult to see how any man who knows the severity and pressure of the life of today can find fault with the evidence it furnishes of the capacity of men to be boys again, and to revert to the aboriginal instinct for fun, when they are provided with any opportunity to forget their professional and personal cares, and just be "kids" again.

No doubt the Congregational pioneers who founded Yale University would be much astonished at the proceedings which now take place at New Haven every Commencement, when the streets are crowded with alumni marching in costumes which recall a Mardi Gras, an old-fashioned fireman's parade and a masked ball combined. It is awful, viewed from the standpoint of Jonathan Edwards, Cotton Mather and the first Timothy Dwight. But from the standpoint of Froebel, Wundt and G. Stanley Hall, it is but a cropping out of the "play instinct," which never wholly passes in the normal man; and it everywhere causes, where permitted to break forth, what the Tech '85 men are said to have felt when they scattered to their work, "a happy feeling 'that won't come off' around the cardiac region," which is much better than the customary form of heart disease, that takes away so many American business and professional men, who never take time for play or friendship, or "a good time."—*Boston Herald*.

Dr. W. H. Walker, who contributes to the present number the article entitled "Achievements of Some New England Chemists," is himself one

of the brilliant chemists of New England. The popular mind will seize quickest upon the fact that his discoveries in connection with photographic films have revolutionized the moving picture business. Perhaps his most notable achievements, however, have been concerned with the corrosion of metals, and the paper in which his discoveries in this field were announced was awarded the Nichols Gold Medal.

Dr. Walker is director of the Research Laboratory of Applied Chemistry at Massachusetts Institute of Technology. He went to the Institute in the autumn of 1894 as instructor in analytical chemistry, and was speedily advanced to an assistant professorship. Later, after some years of direct contact with industrial affairs as partner in a large commercial laboratory, he became full professor in industrial chemistry, which position he still retains.—*Advance New England, Boston.*

## BOOK REVIEW

THE IDENTIFICATION OF THE COMMERCIAL DYE STUFFS. By Samuel Parsons Mulliken, Ph.D., assistant professor of organic chemical research at the Massachusetts Institute of Technology. New York, Wiley & Sons, 1910.

This book, which is Volume III. of Professor Mulliken's "Method for the Identification of Pure Organic Compounds," follows the same general systematic procedure as the earlier volume, and shows evidence of the same painstaking care and capacity for exact description that was a salient feature of the first.

The first chapter is devoted to an interesting historical sketch of the development of chemical methods for the identification of dyestuffs. Prolonged experimentation with existing methods has convinced the author that they are all unsatisfactory, and in the present work he has endeavored to overcome the chief points of weakness by the adoption of two important aids. The first of these is the use and extension of the definite color standard already familiar to readers of Volume I., and the other consists of ingenious grouping arrangements, accompanied by specific descriptions of individual characterizations for each dyestuff. The chemist who has had any experience at all with former schemes will appreciate the author's statement that these procedures usually "terminate with the information that the unknown dyestuff may belong in one of several groups, each of which may contain a number of species whose scattered descriptions in the reference literature, when at length located, prove tantalizingly lacking in the kind of exact information that would alone be effective at this stage of the inquiry."

Chapter III., which makes up the greater part of the book, contains tests and detailed descriptions of nearly 1,600 dyes, arranged in tabular form. The fact that these descriptions are based on original data and that the thousands of necessary tests were made in duplicate shows the enormous amount of experimental work comprised in the investigation.

All directions for making the tests and for interpreting the results are given with the utmost care and exactness, so that it is difficult to see how even the tyro could go wrong. The book is one that cannot fail to be of the greatest value to the chemist or manufacturer engaged in the color industry, the more so in that it is placed upon a broad scientific basis.

class of 1874, but was not a graduate. Upon completing a course of civil engineering at the Institute, he engaged in the practice of his profession, and was so occupied until his death. He was located first in North Bridgewater, his native town, then in Charlestown, where he was city engineer, and lastly in Brockton, formerly North Bridgewater. Mr. Brown was city engineer of Brockton in 1885, and was president of the Brockton Common Council in 1883. A widow and two sons survive him.—Charles Dalton Austin died in Cleveland, Ohio, on August 31, in the fifty-seventh year of his age. He entered the Institute with the class of 1874 in October, 1870, but was not a graduate. After a business career of several years Mr. Austin became an architect, his specialty being the superintendence of the erection of buildings, and in this capacity he was employed by some of the leading architects of the country. His wife, who was Miss Adeline S. Mansfield, of Boston, and several children survive him.—The class association celebrated at the Boston City Club, on October 3, the fortieth anniversary of the gathering of the class of 1874, M. I. T. About a dozen members were present, and harked back to the days when their brains began to expand under the pressure of the curriculum of the Institute.—Professor Samuel C. Prescott, of the Institute, and Miss Alice D. Chase, daughter of John C. Chase, a member of the Association, were married on June 30 in Houghton Memorial Chapel, Wellesley College. Professor and Mrs. Prescott are residing in Brookline.—Walter K. Means and Miss Alice P. Newcomb were married in Oconomowoc, Wis., on October 4.

1876.

JOHN R. FREEMAN, Sec., 815 Banigan Building, Providence, R.I.

Professor Locke of the Institute made a trip to Korea this summer, and reports that he met there Walter D. Townsend. Townsend went to Japan about thirty-one years ago, and remained there until about 1897, when he went to Chemulpo, Korea. During all his stay he has engaged largely in mercantile pursuits, although he has some side interests in mining. He has prospered, and early this year decided that he would give up considerable of his business and labor at a reduced rate. It was, however, from the social side that Professor Locke says that he was impressed. He found that Townsend was as well, if not better, known than any other white man in that part of the Orient. He had obtained a reputation for friendliness and honesty which made him a confidant and adviser of foreigners and natives alike. As a companion on a ten days' trip Townsend and Locke made together up to the gold mines in the north of Korea, Locke says that he was *par excellence*. He had a fund of anecdotes of his own experiences, of experiences of others during both the Chinese-Japanese and the



LINWOOD O. TOWNE, '78



Russo-Japanese wars, of which he saw a great deal, and of the conditions which existed under the old Korean régime. Townsend appears to be wedded to the country and has no thought of returning. Any one who spends any time in Korea is almost sure to meet him. The class of '76, in Professor Locke's opinion, should make every effort to get Townsend over here to the next reunion, and, if all other means fail, a committee should be appointed to go over and bring him by force. If he were present, it should prove a drawing card for other members of the class, and make a reunion which would be famous in the history of '76. Some years ago, while the secretary was on a transcontinental trip, he happened to meet an attaché of the Korean legation, who spoke in the highest terms of Townsend and of the great confidence his people had in him. As he expressed it to me, "There is no American in all Korea who stands so high in our regard."

1878.

---

The class of '78 has lost by the death of Linwood O. Towne one who filled a large place in it and was better known to its members than any man in the class. Mr. Towne was born in Newtonville, July 9, 1855. He received his education in the public schools of Newton, and was graduated from its high school in June, 1874. In September of that year he entered the Massachusetts Institute of Technology as a member of the class of '78, a title which grew dearer to him as he grew older. Without any attempt at leadership or any striving for popularity, he soon took his place in the class as the one looked upon by his fellows as the man who did things not for himself, but for his class. In his second year, representing his class on a committee to select colors for the Institute, his choice became the choice of the committee, and the silver-gray and cardinal were adopted as the Technology colors. This distinction he never attempted to claim for himself, but was always extremely jealous of any attempt to deprive the class of '78 of the honor. In his freshman and sophomore years he served as an officer in the school battalion, showing that early in his course he had gained the favor of his superiors. The class of '78 was much smaller than the class that preceded it or the one that followed it, its membership at entrance being only forty-four, and so it happened from its very size that each of its members grew to know more intimately his classmates than would have been the case had the class contained three times the number it did; and so, when the class was graduated in 1878, those receiving their degrees carried away from the Institute not only these tokens of the fact that they had completed their courses with credit to themselves and to their Alma Mater,

but also the realization that in those four years ties had been formed which neither distance nor time, but only death itself, could sever. This feeling was shared also in no less degree by those whom circumstances compelled to leave the school before the completion of the course. Naturally, the years immediately following graduation scattered the class, as it has all Technology classes, but Linwood Towne, as secretary of the class and from his own inclination, never lost trace of its members. More than that, it is probable that there is hardly a man in the class under whose roof he has not slept or at whose table he has not eaten since the class left the Institute. Having sisters of his own and fond recollections of a mother who had shared his inmost thoughts, he had, without being effeminate, an appreciation of all that entered into the domestic life of a wife, and a sympathetic nature which enabled him to enter into the joys and sorrows of children. Therefore, the circle of his friendship widened to include the wives and children of his classmates, who now sorrow at his death. All this he was to his classmates. But his classmates and their families are not the only ones who mourn his death. The first work which he took up after his graduation was that of teacher in an institution in Philadelphia. This was followed by an engagement as teacher in the Chelsea High School. He then went to Rico, Col., where he practised assaying, which he combined with the drug business. An accident to his eyes from an explosion compelled him to give up this occupation, and he returned east in 1887. In 1891 he accepted a position as teacher of science in the Haverhill High School, which position he held at the time of his death. During all these years the quality in him of helpfulness to others was continually finding expression, but in his career as teacher it was brought into fullest play. The profession of teaching, if followed not perfunctorily, but with a desire to really help those put under the teacher's care, is one of the noblest of professions. Linwood Towne gave his scholars all that was in him. He inspired them to do the best work of which they were capable. He incited them to go from the high school to higher institutions of learning, and, when lack of money in many cases seemed to forbid this, he interested friends to advance the necessary funds. All through his nineteen years at Haverhill he was untiring in his efforts to arouse in his scholars a desire for higher education, and many men and women occupying positions lucrative and responsible owe it to him that they have professions gained through his incitement and assistance. No graduate of the Massachusetts Institute of Technology ever was more loyal to his Alma Mater, or did more to increase its reputation among youth seeking to obtain a technical education. It was probably owing to Mr. Towne's devotion to duty that his death was hastened. He had a severe attack of heart failure in May, from which he had but partially recovered on the open-

ing of the school term in September, but he was eager to start the work in the physical and chemical laboratories constructed according to his plans in the new high-school building at Haverhill, and his enfeebled system was not able to bear the strain put upon it, and gave way Wednesday, October 19, in the building which he had done so much to secure for the city and where he had hoped to do still better and more effective work toward the advancement of the pupils put under his charge.

E. P. C.

---

Dr. Takuma Dan, a graduate from the mining course at the Institute, with a party of Japanese headed by Baron Mitsui, all connected with the Asahio Copper Company, recently visited the Institute, renewing his old cordial relations with Professor Richards and meeting other classmates during his stay in Boston. Dr. Dan and the Japanese party entertained about fifteen members of the Faculty and Corporation at dinner at the Touraine, October 7. President Maclaurin welcomed the engineers, and complimented them on the strides Japan is making. He also suggested that we were not getting a large number of the Japanese at the Institute, and that it would be a wise thing if more graduates of Japanese colleges came here for research work. Dr. Noyes and Professor Richards made short addresses, and Dr. Dan told of the advances in education that were being made in Japan which allowed that country to educate its own engineers. He thought it would be an excellent plan, however, if more of them came here for post-graduate work. The class of '78 gave a dinner to Dr. Dan at the Union Club during his stay in Boston. There was a large attendance.

1882.

WALTER BRADLEE SNOW, Sec., 170 Summer Street, Boston, Mass.

---

Mr. Frederick E. Hill, architect, who was associated with the class during 1880 and 1881, is located at 346 Broadway, New York city.—Mr. Winslow B. Ayer, who is president of the Eastern & Western Lumber Company, Portland, Ore., is a member of the Executive Committee of the Board of Overseers of Whitman College, Walla Walla, Wash.—The issue of the *American Architect* for Oct. 19, 1910, is principally devoted to recent work of Harry W. Jones, architect, of Minneapolis, Minn. The illustrations include a number of very attractive residences, as well as a warehouse and an office building in Minneapolis.

1883.

HARVEY STUART CHASE, *Sec.*, 84 State Street, Boston, Mass.

A partnership under the firm name of Johnson & Fuller has been formed by Messrs. George A. Johnson and William B. Fuller. Offices have been engaged temporarily at 150 Nassau Street, New York, and the firm will act as specialists in all phases of water supply, water purification, sewerage, and sewage and refuse disposal. Mr. Fuller spent three years immediately after graduation from the Massachusetts Institute of Technology in the maintenance of way department of the Northern Pacific Railroad. He then joined the engineering department of Duluth, where he was city engineer during the period when its population jumped from 15,000 to 75,000. Later he returned east, and was engaged on the engineering work of several Massachusetts state commissions, subsequently joining the staff of Mr. Allen Hazen as resident engineer in direct charge of the design and construction of the water filtration works at Albany, N.Y. He occupied a similar position under Messrs. J. Waldo Smith and George W. Fuller at the Little Falls, N.J., filtration works of the East Jersey Water Company, and under Mr. Smith on the design and construction of the Boonton dam and conduit of the Jersey City Water Supply Company. He served also as resident engineer for the Hackensack Water Company, as assistant engineer on the investigation of a new water supply for New York made under the direction of the Merchants' Association of that city and as department engineer in charge of filtration studies for the Burr-Hering-Freeman Commission, whose report paved the way for the new system of water supply for New York which is now under construction. Somewhat later he was engaged under Mr. I. M. de Varona, chief engineer of the Department of Water Supply, Gas and Electricity of New York, on detailed designs for slow sand filters at Jerome Park. Mr. Fuller has also acted as engineer for the contractors on several large undertakings.

1884.

HARRY W. TYLER, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

Gill has been enjoying an involuntary vacation in the Massachusetts General Hospital, following an operation for the usual appendicitis, with which he was attacked at his summer home. His recovery has, fortunately, been rapid and complete.—Newell, director of the Reclamation Service, has been close to the principals in the Ballinger-Pinchot controversy, his testimony and that of his chief engineer before the investigating committee being more interesting and significant than almost any other.



In spite of the evident lack of appreciation of his work on the part of his political superior, there seems to be ground for hope that his service to the country will not be discontinued.—T. W. Robinson has been in Boston with his son, who is entering Harvard University with the expectation of coming to the Institute later.—The administrators of the John H. Terry estate of Eureka, Col., have recently announced the appointment of Walter H. Bunce as general manager of the Sunnyside Mines and Mills. His office will be at Eureka, San Juan County, Col.

1885.

I. W. LITCHFIELD, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

The following article from the *Outlook*, entitled "Beginnings of Conservation," will be especially interesting at this time to members of the class.

Present interest in the movement towards conserving the Nation's natural resources calls attention to the beginning of that movement. It may be traced to Major John W. Powell, director of the Geological Survey thirty years ago. He made many explorations in the west, and his book on its arid lands is now regarded as a classic on the subject. His personality stimulated an interest in the larger matters of public welfare. His enthusiasm regarding the development of the country's resources became contagious. At that time, however, Americans knew comparatively little of the region, extent and value of their public lands. One of the first persons to direct attention to this lack was Mr. Frederick Haynes Newell, at present director of the Reclamation Service. Mr. Newell printed the results of his investigation in the sixteenth annual report of the United States Geological Survey under the title "The Public Lands and their Water Supply." While discussing the relation of the water supply to the forests, Mr. Newell was brought into contact with an expert forester, Mr. Gifford Pinchot, and frequently talked over with him the broader problems connected with the general subject. Some years later Mr. Roosevelt was governor of New York, and had under consideration the question of the conservation of the Adirondack forests. In this consideration he consulted freely with Mr. Pinchot. A number of bills had been presented to Governor Roosevelt for signature with reference to water power in the Adirondacks. In consequence he became much impressed with the necessity of having definite facts for guidance before approving legislation of this character. At Mr. Pinchot's suggestion, Mr. Roosevelt sent for Mr. Newell. As a result, in January, 1900, an agreement was reached between New York State and the federal government by which the latter began a systematic measurement of the streams of that State with a view to obtaining impartial facts. Future control and use of water power must of course be based upon such facts. A few days following President McKinley's death, Mr. Roosevelt, then President, signalized his interest in the subject by inviting Mr. Newell and Mr. Pinchot to discuss the matter with him at length. The President asked his visitors to prepare memoranda for use in preparing



his first message to Congress. This message called the attention of the Fifty-seventh Congress to the matter. It had already been discussed by some of the western members, but they seemed hopelessly divided. However, as they realized, if success were to be attained, there must be unity of action. Accordingly, in December, 1901, they organized and held almost daily sessions. Three weeks later Senator Newlands, of Nevada, submitted a report with a draft of a reclamation bill, which was ultimately passed by Congress, and became law upon the President's signature (June, 1902). The beneficial effect of this act then directed general attention to the other uses of our public lands. In October, 1903, President Roosevelt designated Mr. Pinchot and Mr. Newell, together with Mr. W. A. Richards, the land commissioner, as a Public Lands Commission to report to him. Several partial reports were made, containing certain recommendations. Some of them have now been embodied in law, and others are still under discussion. In particular the commission indicated the changes needed to effect the largest practicable disposition of the public lands to actual settlers, showing that the number of patents issued had been increasing out of all proportion to the number of new homes. The commission was the direct stimulus of the attempts at reform legislation since then, as well as of the governors' meeting at the White House, out of which has grown the present national movement towards the conservation of natural resources, which is constantly increasing in extent and wide-spreading value.

—Joe Nute has a son, R. E. Nute, in the freshman class. D. F. Baker, son of Dave Baker, is a junior. So far as the secretary knows, these are the only sons of '85 Tech men who have entered the Institute.—W. S. Page was heard from at the time of the reunion in June, which unfortunately he could not attend. His concern is the Page Needle Company of Chicopee Falls, Mass.—Frank Page and Litchfield met during the summer in New Bedford. While they were talking about the reunion at the junction of two streets, Nye floated down from his office without coat or hat, and there was an '85 reunion then and there. Page takes a long rest at his cottage on Buzzards Bay during the summer and works like a nailer during the winter.—While at camp last June, a letter arrived from Mahon, regretting his inability to be on hand as he had hoped. Mahon is a red-hot backer of the old class, and is looking forward to the time, soon to come, when he can meet and enjoy the society of his classmates.—Sid Williams was unable to get to the reunion, but is talking of attending the fiftieth, which, he says, he is looking forward to without fear.—Jack Harding started up a brisk correspondence from his fastness at Springfield, Mass., and almost screwed himself up to the point of leaving his business in better hands and joining the class at Squam Lake. He declares that he has changed in many respects, but his beverages are about the same. Presumably the reason he did not appear at camp was the fear that these staples might be absent.—Ben Copeland is still living at Dedham and doing business in Boston, but whether he has

a personal aversion to the secretary or wants to make a record for staying away has not yet been determined.—Walter Harrington lives at Andover, N.J., and has recently become manager of the American Meter Company of New York,—a position of great responsibility. Although he had hoped to be with us at camp, he was prevented from coming at the last moment. He promises to do better in the future.—Doane is way out in Cheyenne, Wyo., and was heart-broken because he was disappointed in not being able to come east in June. Doane is one of the most loyal supporters of Technology and the class of '85. He came on to Chicago from somewhere way out west to attend one of the annual dinners of the North-western Association in order to get within touch of the Institute once more.—Redington Fiske was just recovering from a serious operation which prevented him from being at camp. He recovered rapidly, however, and is in excellent health. He is a dealer in investment securities at 50 Congress Street, and has a warm welcome for any '85 man that calls.

1886.

ARTHUR G. ROBBINS, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

We reproduce a communication from the Boston *Transcript* of September 10 in regard to Albert E. Leach, whose unfortunate death was recently reported:—

Albert E. Leach, chief of the Denver Food and Drug Inspection Laboratory of the United States Department of Agriculture, formerly analyst of the Massachusetts State Board of Health, who has recently died of intestinal tuberculosis in Denver, Col., served the Massachusetts State Board of Health with great credit, adding to the world's knowledge of the subject to which he devoted his life. He deserves to be remembered.

Born in Boston on April 7, 1864, he was educated in the Newton High School and the Massachusetts Institute of Technology, from which he graduated in 1886 in the department of mechanical engineering, and in which he subsequently (1895 and 1896) took graduate work in the department of chemistry. In 1887 he entered a patent lawyer's office as mechanical and electrical expert. In 1892 he was appointed assistant analyst and in 1899 was appointed analyst of the Massachusetts State Board of Health. An attack of tuberculosis of the lungs in 1906 incapacitated him for some months, and upon his apparent recovery it was deemed prudent to seek occupation in a more favorable climate. In 1907 he accepted the position of chief of the United States Food and Drug Inspection Laboratory in Denver, Col., a position which he held until his death.

While analyst of the Massachusetts Board of Health, he wrote numerous papers upon new and improved methods of food analysis, and in 1904 published a book of 770 pages, entitled "Food Inspection and Analysis," which has become a standard work both here and abroad. His last work of this nature was the superintending of the revision of

this work, which was completed in 1909. Mr. Leach was an expert microscopist, a careful and accurate analytical chemist, an excellent witness in court, and his writings were noted for their accuracy and pleasing literary style.

Mr. Leach was a member of the Association of Official Agricultural Chemists and of the Council of the American Chemical Society, and his scientific work appeared in the publications of these societies as well as in the reports of the Massachusetts State Board of Health. He was a man of fine character, and his death will be greatly regretted by his many personal friends. He leaves a widow and four children, the eldest a son, now a student in the University of Colorado. W. P. H.

1887.

EDWARD G. THOMAS, Sec., 36 High Street, Brookline, Mass.

Lyman Farwell is active as a "progressive Republican" in California politics, and is the nominee of the Lincoln-Roosevelt party for the Assembly from Los Angeles. That he stands for good government, clean politics, and a square deal is evident from the following extract from an interview with him in the Los Angeles *Express*:—

Public questions now requiring attention and proper settlement Mr. Farwell says are:—

"The absolute separation of the judiciary from politics. An honest judge should be placed on the ballot, if he so desires, irrespective of party affiliations or the objections of any man or set of men.

"The direct primary law should be remodelled and completed by its friends, the people, and not left entirely to the mercies of its enemies, the machine. In so far as it meets the favor of a majority of Lincoln-Roosevelt members of the next assembly, and is shown to be practical, I would favor the preferential ballot for all elections. It certainly is time-saving, and would cut the election expenses to one-half or one-third of what they are today.

"This state should uphold, in no uncertain terms, the Roosevelt-Pinchot conservation policies.

"The next assembly should put itself on record as standing for a scientific and thorough revision of the tariff by recommending to congress the appointment of a non-partisan, independent tariff commission, and uphold the campaign promises of the Republican party for a proper revision downward.

"This state should stand for election of United States senators by the direct vote of the people, and so urge congress to initiate laws to that effect.

"In fact, the platform of the Lincoln-Roosevelt Republican league, with its numerous endorsements of policies, is right, is honest, and it should be strenuously fought for and advocated by every Lincoln-Roosevelt candidate, as well as supported by the people, whose fight this is."

—Messrs. Sprague, Keyes and Jackson, consulting engineers, Boston, Mass., have been engaged by the Bailey-Wood Coal

Company, of Woodbay, Va., to draw up plans and specifications and purchase machinery for the power and ventilating plant at their mines. The work will be under the direct supervision of Mr. Timothy W. Sprague.—Here are a few of Draper's activities according to a recent newspaper notice:—

He is president of the Draper-Hansen Company, which carries on an advertising and sales promotion business; president of the Draper Realty Company, which controls large real estate holdings in the Borough of Queens, New York city; president of the Imperial Lumber Company, with timber concessions in Dutch Guiana and mills in Brooklyn; president of the Phillips Manufacturing Company, which handles electrical contract work; president of the Hilton Manufacturing Company, which deals in automobile specialties, etc.; president of the Farrington Company, which handles varnishes and shellacs; president of the American Sand Blast and Water-proofing Company, refinishers of surfaces of buildings.

He is a director of the King-Lawson Company, manufacturers of railroad dump cars; the Walpole Rubber Company, of Walpole, Mass.; the Kinney Manufacturing Company, manufacturers of rotary pumps, of Boston, Mass.; and the Butters Lumber Company, of North Carolina.

—Cameron and Shortall are among the nominees for term membership in the Corporation. Cameron is a member of the firm of Abbot & Co., manufacturers of worsted carpet yarns at Forge Village, Mass. He is active in both the business and professional side of his work, conducting personally the larger one of the two mills which his firm operates. He has been foremost in promoting every Institute and class activity, and will make an efficient member of the Corporation.—Shortall will be equally useful. As a lawyer, he stands high in the Chicago bar, and everything relating to the Institute has his hearty support. He has been president of the North-western Association, is a member of the University and Athletic Clubs of Chicago, and is doing energetic work in connection with the charitable organizations of his city. Let us elect them both.

1888.

WILLIAM G. SNOW, *Sec.*, 24 Milk Street, Boston, Mass.

Frank A. Stetson is treasurer of the Shoe City Novelty Company, Lynn, Mass.—Charles A. Stone left Boston in August for a seven months' vacation abroad.—John Blodgett is with the Riverside Bridge Company, Martins Ferry, Ohio.—The following extracts are taken from the *Electrical Review and Western Electrician* of Aug. 13, 1910:—

Upon the occasion of the Frontenac Convention of the American Institute of Electrical Engineers, for the first time in the history of the institution, the presiding officer was presented with a medal. The recipient



of this unusual token of regard upon the part of the board of managers was Louis Aloysius Ferguson. Mr. Ferguson has exerted a broad influence upon the development of electrical engineering and central-station practice, particularly in regard to the commercial development of electric lighting. He has also exerted a marked influence over all those who have been intimately associated with him, and he ranks high in the esteem of his fellow-men.

He began his professional and business career by becoming associated with the underground distributing department of the Chicago Edison Company in 1888, and in 1890 was appointed electrical engineer.

In this capacity he had charge of all electrical engineering and operating work of the company. Three years later his duties were enlarged to include the supervision of all soliciting and contracting. In this connection he was particularly successful, negotiating a large number of long-time contracts with some of Chicago's greatest mercantile institutions. In 1897 he was appointed general superintendent of the Chicago Edison Company, and a year later he was made general superintendent also of the Commonwealth Electric Company. In 1902 he was elected second vice-president of both companies, and upon the consolidation of these companies under the name of the Commonwealth Edison Company in 1907 he was made second vice-president of the new corporation.

Mr. Ferguson has been connected with one of the most interesting developments which history has ever written concerning the central-station industry. As an operating engineer, he has seen the magnificent institution with which he is connected grow from a matter of small belt-driven unit to an aggregation of the largest energy-producing machines the industrial world knows today. He has been intimately connected with and responsible for a great part of the development from low-tension feeder systems to the remarkable high-tension distribution and net work which the Commonwealth Edison Company now controls in its great territory.

Mr. Ferguson has been a valued contributor to the scientific and technical press of the country, and his papers before such institutions as the National Electric Light Association, the American Institute of Electrical Engineers and the Association of Edison Illuminating Companies have been classical. He has been at the head of important committees for these organizations, and has done much to standardize our practice in connection with the generation of current and illumination by incandescent lamps. He has also had a great deal to do with the development and utilization of the storage battery. He is an ardent advocate of the centralization of electrical supply, and his annual address as president of the American Institute of Electrical Engineers at the Frontenac Convention was a notable memorial upon this subject. In addition to being president of the American Institute of Electrical Engineers he has also been honored by the presidency of the National Electric Light Association in 1902 and the presidency of the Association of Edison Illuminating Companies in 1901 and 1902.



1889.

WALTER H. KILHAM, *Sec.*, 9 Park Street, Boston, Mass.

---

*Advance New England* for 1910, in a number devoted especially to chemical industries, has the following in connection with an article on "Bleaching Liquor":—

The latest of these processes to achieve success is that of Jasper Whiting, at the mill of the Oxford Paper Company, Rumford Falls, Me. But Mr. Whiting's first important piece of work was the development of the process for the manufacture of Portland cement from waste blast furnace slag, which is proving a boon to the steel manufacturer. This work has resulted in the development of a large and important industry in connection with the manufacture of iron and steel, and, while not located in New England, it is the achievement of a New England chemist.

—At the joint summer meeting of the Institution of Mechanical Engineers and the American Society of Mechanical Engineers, held in Birmingham, in London, in July last, Hobart read a paper on "Cost of Electrically Propelled Suburban Trains."—The address of President Hobbs, of the National Association of Cotton Manufacturers, read at their eighty-ninth meeting, at The Wentworth, Portsmouth, N.H., Sept. 15, 1910, received wide attention in the newspapers. It is pleasant to note the feeling of optimism which pervades the entire address. The published proceedings of the meeting are enlivened with a fine portrait of Hobbs looking his best.—From the *Boston Herald* of October 20:—

Samuel H. Mildram, of Ward 24, who was defeated for renomination to the House for a fifth term, has filed papers as an independent candidate for the Senate in the Ninth District.

—The firm of Ford, Stewart & Oliver, architects in New York, has been dissolved and a new partnership formed under the firm name of Ford, Butler & Oliver, doing business at 103 Park Avenue, New York.

1890.

GEORGE L. GILMORE, *Sec.*, Lexington, Mass.

---

F. M. Atwood has been elected director of the Paint and Oil Club of Boston.—At the dedication of the Pilgrim Monument in Provincetown, August 5, Governor Draper and his staff were guests of Colonel Charles Hayden on his yacht "Wacondah" on the trip from Boston, spending the night on board the yacht.—Leonard C. Wason is chairman of the Brookline Republican Town Committee. In an interview with the press, Wason states that

it is his belief that Senator Lodge will be re-elected to the Senate.—C. W. Sherman is one of the water commissioners of the town of Belmont. He is also treasurer of the Boston Society of Civil Engineers and treasurer and general manager of the Vincennes Electric Company, Vincennes, Ind., with offices at 14 Beacon Street, Boston.—F. E. Harnden is at 330 South Fruit Street, Phoenix, Ariz.—The address of W. H. Fenn is 1403 Burnham Street, Wilmington, Del.—S. F. Jacques is at Binghamton, N.Y.—The address of George B. MacConnell is Box 1133, New Haven, Conn.—E. H. Brownell, civil engineer in the United States Navy, is now located at the Navy Yard, Bremerton, Wash.—Guy Emerson, ex-superintendent of streets of Boston, has prepared a plan for a West End subway loop to be a continuation of the new Cambridge subway. The loop can be constructed at an expense of about two million, and, if carried through, may make unnecessary the proposed construction of the Riverbank subway, which would be sure to cost a much larger sum. Guy thinks an extension of the Boylston Street subway up Boylston Street and Huntington Avenue is one of the undertakings of the future, and likewise an extension from the Boylston Street station to the South Station, via Essex Street, with possible future connections with South Boston.—The August number of the *Review of Reviews* has a very interesting article on the Solar Observatory on Mount Wilson established by Professor George E. Hale of '90. The article is headed by a picture of Hale at his desk, and naturally deals largely with the wonderful work and discoveries made by Hale in his investigations of the sun. The work done by him places him among the leading astronomers of the world.

PASADENA, CAL., September 2.—Professor Edward O. Pickering, of Harvard Observatory, surprised the scientists attending the International Astronomical Conference on Mount Wilson yesterday by donating a bronze tablet commemorating the establishment of the first solar observatory. This pioneer observatory was founded on Harvard Peak, one of the peaks of Mount Wilson, twenty-one years ago, and Professor William Pickering, of Harvard, was then in charge. Professor Charles F. Abbott, of the Smithsonian Astro-Physical Laboratory, Washington, read a paper giving the results of observations made by him with the pyroheliometer, an instrument that notes the variation of heat in the sun's rays and surface. Professor Abbott said he believed the instrument would become commercially important through its availability in determining the effect of such variations upon the atmosphere of the earth and on the products of the soil. Professor Newell, of the University Observatory, Cambridge, England, complimented the work accomplished by Dr. George F. Hale, of Carnegie Solar Observatory, Mount Wilson. His discovery that the sun spots were vortices of electricity and that the cyclones which whirl from left to right were positive in character and those revolving in the reverse direction were negative had completely revolutionized the study of solar spots, said Professor Newell.

—F. H. Kendall is one of the Board of Selectmen of the town of Belmont.—Charles Hayden, a member of the Finance Committee of the Utah Copper Company, says with respect to the curtailment of copper output:—

I do not think any agreement to curtail production has been made by the leading copper producers of this country, but I feel sure that some of the officials representing large producers, who are now abroad, have met and exchanged views with some of the large foreign copper interests. I think each company is going to do what it believes to be for the best interests of its shareholders.

1891.

HOWARD C. FORBES, *Sec.*, 88 Broad Street, Boston, Mass.

The committee on the celebration of our twentieth anniversary next June have been getting their work laid out, so that by the first of the year they will be able to decide upon a definite plan, and will then start a vigorous campaign to secure as large an attendance as possible. A meeting was held at Harry Bradley's office of those of the committee who are in Boston,—Bradlee, Bowen, Bird, Cunningham, Douglass, Forbes, Garrison, Wilder, Wilson (Alley's views being obtained over the telephone),—at which it was decided that the immediate thing was to get together every possible suggestion for an outing. Any one, therefore, who has ideas as to what we should do will kindly write immediately to the secretary. Wilson writes:—

The Boston crowd of the class of '91 will be glad to know of the return of another good man to the Boston fold. Fred E. Norton, whose latest hailing-place has been Youngstown, Ohio, with the William Todd Company, is coming to Lynn, Mass. He has joined the General Electric Company's army, where he is something of something in the designing department. He expects to move to Lynn early in October. His house address will be for the present 22 Atlantic Street.

—S. W. Wilder, president of the Merrimac Chemical Company, is chairman of the north-eastern section of the American Chemical Society, and has written an account of the "Chemical Industry in New England Today: A Record of Steady and Normal Growth." This was published in the August number of the journal of the Boston Chamber of Commerce. Wilder is also chairman of an alumni committee in Newton, Mass., which is endeavoring and expects to establish and endow a Technology scholarship for the benefit of the high schools of Newton. This will be of great advantage to the young men of Newton and indirectly to the Institute, and may lead to similar action in other cities.—Morris Knowles, who has been connected with the sewerage department in Pittsburg and whose account of the civic awakening in that city was given in the last REVIEW, has opened his own office in Pittsburg as consulting engineer.

1892.

W. SPENCER HUTCHINSON, *Sec.*, 1235 Morton St., Mattapan, Mass.

Charles A. Beal is superintendent of the Incandescent Lamp Works for the General Electric Company, with headquarters at Harrison, N.J.—William Y. Chute, 803 Phoenix Building, Minneapolis, Minn., is active and prominent as president of the Chute Realty Company, having large interests to represent, particularly in the old part of Minneapolis; and, as an ex-president of the Real Estate Board, Chute is active in such occasions as the National Convention of Real Estate Exchanges, held there June 15 to 18. Representing the real estate fraternity and the Minneapolis Society of Fine Arts, Chute served the city in the preliminary committee which inaugurated a civic commission for Minneapolis, and secured the foremost expert in the country to make comprehensive plans for the improvement and the direction of growth of the city. He is a member of the Citizens' Committee to secure a union station, and this project is assured for the near future. In his real estate activity Chute has stood for improvement along the better lines that appeal to æsthetic appreciation, wherein regard is paid to the eye in the "building beautiful," and has had the courage of his convictions evidenced in his little house far out on Minnehaha Creek, where he has a large country place and expects ultimately to make a permanent residence.—Arthur W. Dean is chief engineer of the Massachusetts Highway Commission, 15 Ashburton Place, Boston.—George H. Goodell, of Rank & Goodell, is in the Pioneer Press Building at St. Paul, among the railroad supply men, and representing a dozen or more good concerns, such as the Standard Steel Works, Steel Car Forge Company of Pittsburg, Cleveland Steel Company, T. H. Symington Company, not to mention the Baldwin Locomotive Works in their lighter lines. Goodell has an enviable reputation as a business man, and is right out for business, but withal has cherished thought of Tech, and keeps a class photograph of '92 on the wall above his desk. Billy Adams called on Goodell when on one of his recent trips west.—Richard H. Mansfield, an excellent picture showing him in the act of checking a proposal, appears in *System* for September. Mansfield has been manufacturing and selling electric controlling devices since 1895: Beginning with the Ward Leonard Electric Company, he later organized the Ironclad Resistance Company of Westfield, N.J. After his company was purchased by the Cutler Hammer Manufacturing Company in 1900, he continued in New York as eastern manager for the larger concern till 1905. Since 1906 he has been secretary of the company, residing at their home office, Milwaukee.—Arthur G. Pierce is district manager of the Cutler Hammer Manufacturing Company, with an office in the Farmers' Bank Building, Pittsburg, Pa.

—Fred T. Schneider, architect, 1314 F Street, N.W., Washington, D.C., writes, "Still single, and looks as if I would remain that way."—Frank Yoerg is a member of the St. Paul Assembly, and I am indebted to Pollard for the following:—

Yoerg is one of only three in the Democratic contingent who had managed St. Paul affairs for several years who got returned at the May election. He is today the best-known member of the St. Paul Assembly. He seldom speaks, and is very quiet in all his work. His friends say "he is a studier," but he watches affairs and men with a care and persistence that make him thoroughly informed and of great influence.

Yoerg has not practised his profession since 1908. He was at one time associated with Mr. H. C. Gerlach at Mankato, Minn., and was building superintendent of construction at the Mankato post-office building from about 1903-06 for the United States government, having full charge of the work and being notably efficient. He continued in Mankato about a year, and practised with Mr. Kleinschmidt. He spent about eight months in New York city. Yoerg quit architecture to put the Yoerg Brewing Company on its feet, and has made good. If any '92 men call upon Yoerg at St. Paul, they should go across the river to West St. Paul, and seek him on the shore alongside and within the white sandstone cliffs. I have not seen the Rhine, but believe that the Yoerg Brewing Company's plant, built of massive stone walls, with its great chimney reaching up to the top of the cliff, the great cave in the soft sandstone and heavy iron doors, with all the tangle of trees, shrubbery and vines, makes a picture that compares favorably with the most impressive river cliffs.—W. Spencer Hutchinson, mining engineer, 8 Congress Street, Boston, was in Arizona and Sonora, Mexico, during June and July, where he was sick with a fever, a mild form of typhoid. He recovered rapidly on his return to Boston, and is now feeling better than ever. As secretary of the class, he wrote during August and September *twenty-seven* letters to members of the class, from which *six* replies were received. Hutchinson left again for Arizona and Mexico on October 19, and expects to get home for Thanksgiving.

1893.

FREDERICK H. FAY, *Sec.*, 60 City Hall, Boston, Mass.

FREDERIC H. KEYES, *Asst. Sec.*, 88 Broad Street, Boston, Mass.

---

S. H. Brockunier, for many years a consulting mining engineer, has recently become general manager of the Erie Consolidated Mines Company at Graniteville. Cal. He was in Boston in October with his family *en route* from his former home in Wheeling, W. Va., to his new home in the west.—J. S. Codman is work-



ing as consulting illuminating engineer, his services at the present time being retained jointly by the Holophane Company of Newark, Ohio, and the National Electric Lamp Association of Cleveland, Ohio, to determine the best methods of lighting industrial plants.—Edward D. Densmore has been appointed by the Boston Chamber of Commerce as a member of the Committee on Insurance and Fire Protection, and would be glad to receive any information which would be useful in submitting report on this matter to the Chamber of Commerce.—Last May Arthur Farwell was appointed supervisor of municipal concerts for New York city, and during the summer has had charge of some forty bands and two symphony orchestras, giving about one hundred concerts each week to over one million people in the aggregate. Farwell has had an article in the *Craftsman* for November, describing this work.—In response to our request for class news George T. Hanchett writes that for the past seventeen years he has devoted his time exclusively to consulting engineering, at times under more or less trying and discouraging circumstances. He sets forth at length and in detail the disadvantage at which most Tech men have been thrown on their own resources through lack of sufficient instruction in English literature and the everyday problems of a successful business career. We regret that lack of space makes it impossible for us to publish his letter in full, as it gives an exceptionally clear idea of the difficulties encountered by consulting engineers at the present time.—Arthur H. Jameson is the proud father of a daughter, born Aug. 8, 1910, at Branford, Conn.—S. C. Keith, Jr., has presented the Institute with one dozen of his bubbling drinking fountains for installation in the various buildings of the Institute. The construction of this device is absolutely fool-proof and most efficient.—Harry M. Latham has recently returned from abroad, having attended the joint meeting of the American Society of Mechanical Engineers and the British Institution of Mechanical Engineers, held at Birmingham and London the last part of July. He reports that the members of the American Society of Mechanical Engineers were royally entertained in England with excursions, receptions, and banquets. At the conclusion of the meetings he visited several steel and wire plants in England and Germany, afterward spending a number of weeks in Switzerland and Italy, sailing for home from Naples the latter part of September.—Henry A. Morss has been nominated for term membership of the Corporation of the Institute.—C. M. Spofford visited the scene of the Costa Rican earthquake of 1910 during the past summer season, and presented a paper relating to the structural features and effects of the earthquake at a joint meeting of the Boston Society of Civil Engineers and the Boston branches of the American Society of Mechanical Engineers and the American Institute of Electrical Engineers held in Boston on the 19th

of October.—Charles W. Taintor has formed a partnership with Albert Hale, Harvard, '93, under the firm name of Taintor, Hale & Co., for the purpose of dealing in investment securities, with offices at 35 Congress Street, Boston.

1895.

GEORGE A. ROCKWELL, *Sec.*, 101 Tremont Street, Boston, Mass.

---

A souvenir of the recent fifteenth anniversary of the class, containing a report of the reunion and a number of photographs, has been mailed to all the members of the class.—Changes of address: Walter S. Williams, care A. D. Little, 93 Broad Street, Boston, Mass.—F. S. V. Sias, 7 Arch Street, Boston, Mass.—Louis K. Rourke, City Hall, Boston, Mass.—The class is especially gratified to call attention to the success of Louis K. Rourke, who graduated in course I. Mr. Rourke is thirty-seven years of age, and his success is all the more notable on account of his youth. From June, 1895, to August, 1897, he was section hand, assistant to roadmaster, etc., Boston & Maine Railroad; August, 1897, to May, 1899, supervisor of track, Panama Railroad; May, 1899, to May, 1900, with Guayaquil & Quito Railway, Ecuador, first as roadmaster, and after August, 1899, superintendent of construction in charge of work on extension to Quito; May, 1900, to January, 1902, member of firm Dent & Rourke, on contract work on Guayaquil & Quito Railway, and cleared fourteen miles of right of way and graded five miles of heavy mountain work; February, 1902, to January, 1903, bid on railroad work in Mexico, and (with other engineers) reported and bid on public works in Chile, etc.; January, 1903, to March, 1904, superintendent of construction Guayaquil & Quito Railway, laid twenty-one miles of track, crossing thirty openings (spans fifteen to sixty feet); March, 1904, to December, 1905, in partnership with his brother on contract work, principally building highways for Massachusetts; December, 1905, to June, 1910, with Isthmian Canal Commission, until April, 1906, as superintendent of construction, then on Culebra Division as superintendent of tracks (April to July, 1906), superintendent of tracks and dumps (July, 1906, to June, 1907), acting division engineer (six weeks), assistant division engineer (July, 1907, to May, 1908), and division engineer (May to July, 1908), and since July, 1908, assistant division engineer, and, during absence of division engineer, acting division engineer, Central Division; since June 8, 1910, superintendent of streets of the city of Boston. Mr. Rourke was married in May, 1907, to Miss Teresa Ryan, of New York city.

1896.

CHARLES E. LOCKE, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

On September 26 George E. Stratton blew in on his old friends and professors at Tech. He is just from the new Shoshone dam at Cody, Wyo. This dam is of "cyclopean" concrete of the arch type on 150-foot radius at the top. It is 328 feet high, 75 feet long, and 108 feet thick at the bottom, and 200 feet long and 10 feet thick at the top. The flooded area is 6,600 acres, and the capacity will be 460,000 acre feet. Respective heights and capacities of other well-known dams are as follows: Roosevelt, 280 feet, 1,284,000 acre feet; New Croton, 290 feet, 98,200 acre feet; Pathfinder, 215 feet, 1,025,000 acre feet; Ashoknan, 190 feet, 520,000 acre feet. This makes seven years that Stratton has been on Reclamation Service, one year in New Mexico and six years in the northern district, comprising Montana, North Dakota and part of Wyoming. The work consists of inspection, surveys and reports on irrigation projects. For some time he was on the pumping project at Williston, N.D. His present headquarters are at Helena. He reports an occasional meeting with his classmates Paul and Newell, who are also on Reclamation Service. In New York he stopped to see Trout, and found him still dredging docks and sending the mud to sea.—Mr. William S. Root was married on June 22 to May Louise Denny at Pittsfield, Mass. Root has been in business in Pittsfield for a number of years past, and he and his bride will continue to reside there.—Changes of addresses received as follows: A. J. Bowie, 420 Lick Building, San Francisco, Cal.—H. G. Fisk, Fisk Rubber Company, Chicopee Falls, Mass.—W. A. Hall, 49 Taconic Street, Pittsfield, Mass.—L. L. Lamborn, 215 Montague Street, Brooklyn, N.Y.—J. E. Lonngren, care of Wire Mills, Cambria Steel Company, Johnstown, Penn.—J. H. Manahan, 231 Edge Hill Road, E. Milton, Mass.—M. A. Sears, 712-714 E. & C. Building, Denver, Col.—G. F. Shepard, 20 Beacon Street, Boston.—S. T. Smetters, 125 Monroe Street, Chicago, Ill.—J. S. Smyser, 55 Pomeroy Avenue, Pittsfield, Mass.—H. V. VonHolst, 907 Steinway Hall, Chicago, Ill.—C. A. Wentworth, care of A. L. Register Company, Hillhurst, Cañon City, Col.—Dr. and Mrs. William D. Coolidge announce the arrival of Elizabeth Belknap Coolidge on July 19, 1910.—Charlie Morris has transferred from the Boston Navy Yard to the New York Navy Yard.—The following letter came from Charlie Lawrence in June:—

It has occurred to me that it would be a very excellent idea for the class of '96 to get together at the commencement season during the summer of 1911, the occasion being our fifteenth anniversary.

The few members of the class of '96 to whom I have submitted this

proposition have looked upon it favorably, and, undoubtedly, it could be made a success.

You seem to be the logical man to submit this to the class members, and twelve months does not seem too long in which to complete the necessary arrangements for such an undertaking, in order to secure the largest possible attendance.

The class of '96 has ever been conspicuous for "doing things," in which respect it certainly sustained its reputation during the reunion last year.

No concrete ideas have been formulated by me in this connection, because I considered, first, that you might start the ball rolling and collect from the various class members who look favorably upon the proposition suggestions as to a program.

In this connection I would be pleased to do what I could among the members of '96 who are in or around New York city.

Let me hear from you as to your opinion on this subject.

It seems that Lawrence has the right idea, and it is up to the class of '96 to get together next June on their fifteenth reunion. Such of us as were able to get to the tenth reunion at Dr. Gilman's at Ipswich recall the good time that we had then. The doctor says that we are welcome to any of the camps which he owns, and, if they are not located in satisfactory places, he will take pleasure in moving them to suit our desires. The secretary will welcome any expressions from the class as to time and place of holding reunion, but it seems as if somewhere around June 1 would be proper, and the vicinity of Boston would be the best place.—The secretary spent the summer in the Orient, leaving Boston on May 18, calling on Joe Harrington in Chicago and Charlie Hyde in San Francisco, and sailing from San Francisco on the Pacific mail steamship "Mongolia" on May 24. Outside of a six-hour stop in Honolulu and a five-hour stop in Yokohama, the journey was continuous to Korea. There Billy Anderson and his wife were met, and a stay of a month made at Chicksan, Korea, investigating a gold mining concession. Mr. and Mrs. Anderson had previously spent about a month touring China. While in Korea, the secretary made a side trip of ten days, 150 miles on the railroad and 60 miles in a buckboard behind four Chinese mules over one of the roughest roads that has ever come to his attention. The object was a visit to the Oriental Consolidated Mines over July 4. This is the only day in the entire year that the mines are shut down, and it is a big day for the Americans and Koreans as well. On this trip was Mr. Walter D. Townsend, class of '76, who has been in Japan and Korea for over thirty years. The secretary served as umpire for a very exciting baseball game, and escaped without injury. The results of the investigation at Chicksan showed a very promising gold property, and control was obtained of 260 square miles of territory. July 12 a start was made on the return, and on July 20 we sailed from Yokohama, the return route being the same as the



left him in command for camp duty, where his company secured the record for hits with big guns.—D. C. Campbell, who has been located in Duluth, has gone to Spokane.—At the August meeting of the Lake Superior Mining Institute at Gary, Ind., Mr. Charles S. Hurter, of Ishpeming, Mich., read a paper on the "Proper Detonation of High Explosives," which brought out considerable discussion relative to the important subject of packing explosives to promote greater safety in handling and transportation.—Through a mistake in the last issue of the REVIEW your secretary credited Alvan L. Davis with the statement that Pittsburg's filtration plant has reduced the typhoid death-rate by 10 per cent. This should have been 90 per cent., and makes the rate now one-half that normal for cities of Pittsburg's size.—Speaking of Pittsburg, it must have been with a great deal of pride and appreciation that '98 men all over the country read of the victory of William C. Fownes, Jr., of our class, who won the National Golf Championship at the Country Club, Brookline. His consistent playing won for him the admiration of all golf enthusiasts.—Crowell was married August 1 to Mrs. E. C. Perkins.—Prescott C. Mills, Jr., has a son, born September 26.—Van Rensselaer Lansingh, general manager of the Holophane Company and connected with the organization of the Illuminating Engineering Society, gave a popular lecture on "Illuminating Engineering" at the recent convention of the society at Johns Hopkins University, Baltimore. Mr. Lansingh was one of the active spirits of the organization of the society, in which he has continued to take great interest. In 1901 he started in as an illuminating engineer at Chicago, and at the present time is in the front rank of that profession.—Last June Charles-Edward Amory Winslow, on the eve of his departure for his new work in New York, resigned his position as secretary of '98, ending twelve years of unselfish, unflagging service to the Institute and to the class. In all those years his eager loyalty and his splendid enthusiasm have been the constant force behind all the class activities. It is small wonder, therefore, that our last class dinner (despite the energetic protests of the recipient of honor) became a time of recognition of Charles Winslow's work. The verbal tributes given that night were unrecorded. One material tribute, however, remained. This has been photographed, and is shown on the opposite page,—the loving-cup presented at the dinner. This silver cup, given by men of '98, stands high upon an ebony base. It is beautifully modelled with Grecian lines. It bears the following inscription:—

TO  
CHARLES-EDWARD AMORY WINSLOW  
FROM THE  
CLASS OF '98





CUP PRESENTED TO RETIRING SECRETARY WINSLOW, '98

1900.

INGERSOLL BOWDITCH.  
GEORGE C. GIBBS.RICHARD WASTCOAT.  
PERCY R. ZIEGLER.N. J. NEALL, *Sec.*, 12 Pearl Street, Boston, Mass.

At a recent meeting of the Engineers' Society of Western Pennsylvania, Kenneth Seaver, I., delivered a paper on "Refractory Materials." Such a title, we think, can hardly apply to the class as an organization today, however this may have been attained in the past.—On Saturday afternoon, June 25, the following men met at the North Station for the Decennial Reunion at Marblehead: Bowditch, Emery, Ziegler, Cutting, Wedlock, Wentworth, Leary, Neall. It was a perfect afternoon for sailing, and so all were quite ready for the pleasure awaiting them on the old sloop yacht "Clara," which was boarded for the afternoon. Although for a decennial the gathering was small, nevertheless it was one of the best that all those present had ever attended. The men fell into a conversational mood about affairs in general, and possibly because they were in a boat, and couldn't get away, each man let himself go,—i.e., on opinions: they held on to their luncheons,—and everybody had a good time in consequence. Returning from the sail, they landed at the Corinthian Yacht Club, where Ashley, IV., joined the party. Ashley, by the way, is teaching at Tufts College, and last year substituted at Harvard University. A good dinner was served, and everybody did full justice to it. The men departed for Boston by a late train. This is a tame recital of a very pleasant affair, and, while difficult to convey the deeper impressions of the day, it really seemed to those present as if a distinct step forward in real class spirit and fellowship had been attained. This impression has certainly been verified in another field,—by the way and the spirit in which the members of the class have sent in news about themselves and other classmates for the current issue of the REVIEW.—In the first place we are happy to present the following important notices: At Everett, Mass., on the 25th of July, 1910, the marriage of Miss Jeanette Munroe, of Everett, to Mr. Leigh Shelton Keith, VI., was announced. The class extends its heartiest congratulations to Keith.—Badlam, VI., is assistant superintendent of the Rolling Mill department of the Pennsylvania Steel Company at Steelton, Pa. During the past nine years, since leaving the Institute, Badlam has travelled in various mining and steel interests over 50,000 miles in the United States and Canada, including also a sixty-mile canoe trip down the Muskoka and Moon Rivers to Georgian Bay. We think that he certainly deserves the name of the "Great American Traveller."—The Graduates' Register locates Charles C. Briggs, XIII., at Groveton, Pa., but an answer to our letter comes to us from Portland, Ore., where he is a sales-

man for Fairbanks, Morse & Co. He writes: "This is the greatest country out here that I have ever seen. Don't think I would ever be satisfied back in the east again."—Carl F. Gauss, IX., is a mining engineer with the Ray Consolidated Copper Company at Ray, Ariz. We hear, though, that he has intentions of taking up ranching sooner or later.—Brooks, II., writes at length from Mission, Tex., where he has taken up farming on a large scale. He was called thither last spring by the sudden death of his father, who had recently retired from business in Chicago, and, seeking for a home in a milder climate, had just made a good start on this farm. Brooks's description of the country makes the place certainly resemble the "land flowing with milk and honey." We quote from his letter at length:—

The property consists of 1,000 acres of rich black land on the Rio Grande, 60 miles west of the Gulf, 120 feet above sea-level, watered by a co-operative canal, the Del Monte Irrigation Company, of which I am president and canal superintendent. I found a ranch equipment and 75 acres in crop, which I have increased to 150, and anticipate 200 by winter. The best bet was onions: we have driven the Bermuda Islands out of it. I realized \$282 net per acre this spring on them. All truck, etc., matures here before anywhere else in the country, being the extreme southern point of the United States, 431 miles south of Galveston. Hence we get top prices on everything,—cabbage, cantaloupes, tomatoes, celery, green beans, cucumbers, etc. We cannot practise intensive farming, and, if we do not clean up over \$100 per acre in addition to raising at least one and generally two other crops off the same piece, we feel we are wasting our time. Of course, the winter is our growing season, and all the ploughing, etc., comes in midsummer. But under a vertical sun and thermometer at 103 every day, with a week of 109 to 112, for four months unbroken, I have not been inconvenienced at all by it,—in fact, have accomplished a great deal. We start work at quarter to six, and ring in on a sweet-toned old-plantation bell at quarter after seven at night. There is a steady trade-wind from the southeast blowing day and night, making sleep a riotous dissipation of luxurious pleasure. This place is farthest up the river in the delta. From my west line the dense forest extends unbroken for 500 miles. While overseeing canal work, have been hung in a mesquite tree, and had two shirts and two pairs of pants torn off by the thorns at different times, horseback. Game is exceedingly plentiful,—wild turkeys, quail, deer, ducks, pheasants, wild pigeons and fine big channel catfish. Although the railroad has only been in here four years, it is getting so highly civilized that a recent county judge was forced out of office for flourishing a gun on a train, and the men all carry check-books in their hip pockets. The land was originally granted by the crown of Spain to officers who served during Napoleon's peninsula campaigns, and was divided into Porciones of 600 to 3,000 feet width, and extending back from the river 16 miles. We have a part of Porcion 51 laid off from a monument in the Plaza of Reina Vieja, deeded to a captain in lieu of real pay, owing to the low state of the Spanish treasury at that time. So Napoleon's reputation for changing the map extended to the New World, as we have no townships or ranges or sections at all down here. I live within a quarter-mile of the

military road cut by General Scott to make a flank attack that resulted in the victory of Monterey in 1847-48, and the other way is the river, one mile south.

—C. M. Leonard, I., is head of the Leonard Construction Company and the Canadian Leonard Construction Company, Limited, with work in Canada from Saskatoon to Peterboro and Welland, and in the United States from Portland, Ore., to Richford, Vt. 1900 is certainly covering the continent. Leonard hopes that 1900 men passing through Chicago will look him up.—S. P. Brown, II., is chief engineer of a large contracting company in Brooklyn, N.Y., and is engaged in the construction of a large part of the subway system in Brooklyn. He has recently received an addition to his family, Stephen Luce Brown, who expects to be in the Class of 1928 at Tech. Congratulations to Brown and bully for Stephen.—H. L. Walker, IV., who has been one of the leading architects of Atlanta for the past six or eight years, has recently become associated with Mr. King, a well-known New York architect, under the firm name of King & Walker, with offices in New York and Atlanta. Walker has in his office several large school buildings in different cities in the South, the new Grady Hospital in Atlanta, and four or five public schools for the same city.—Walter C. Chaffee, IV., is still practising architecture in Birmingham, Ala. He has an office full of work all the time.—M. L. Sperry, II., is manager of the Savannah Electric Company, Savannah, Ga., where he is enjoying himself fighting the Savannah Lighting Company. Since leaving Tech Sperry's height and "drawl" have not shortened to any great extent.—W. R. Collier, VI., is still contract agent of the Georgia Railway & Electric Co.—In the metropolis, Jewett is with the New York Central Railroad, in charge of all designs, except steel, for the elimination of grade crossings and improvement work in the territory around New York which is being electrified. Jewett says that he has been on inside work for three years, and would welcome a return to construction work again.—There are not many of the class located in New York city just at present. Harry Morris, III., has returned to New York after a considerable stay in the west.—Edward H. Davis, IX., writes:—

The fact is, I am the only 1900 man whom I've heard of as being within 200 miles of this place [Purdue University] within ten years, and the only news about me is that I am sober and industrious, working busily, though uneventfully, with an intensity of *interest*, at least, that makes Saturday tread on the heels of Monday. Well, that is hardly enough to win me fame in the black and white of TECHNOLOGY REVIEW. Of course, I could invent some news for you,—tell you of a few recent hair-breadth escapes of N. J. Neall and H. H. Howe, of the riots and excesses of J. P. Draper and J. C. Weeks and C. M. Leonard,—leave alone a recent book of poems by Silverman, an atheistic novel by Morgan Barney. As you ought to know,—and often meditate humbly upon,—

I am doing the Registrar act in connection with my teaching at this University. Purdue is really the Indiana Institute of Technology. It is a very large and important institution, doing good work. It has come into prominence, as into its large size and enrolment, only in the last ten or fifteen years,—after, we may say, the name of M. I. T. was already solidly established,—and with this growth has come a material expansion which would seem simply miraculous anywhere in New England. I have completed my seventh year here, and in that time I have seen the completion of three of the largest and best of our buildings and the starting, building and completion of no less than nine more. Among them are two (Practical Mechanics or “Shops” and Agricultural Experiment Station) which have certainly no superiors in the United States. It is state legislature appropriation which does it,—a source relatively almost negligible at present in Massachusetts.

—As to the spiritual engineers in the class, the Rev. H. S. Conant has been called from Philadelphia, where he has been pastor's assistant at the Church of the New Jerusalem, to the pastorate of a church of the same denomination in Baltimore. His new address is 714 East 21st Street, Baltimore, Md.—Gibbs is in his senior year at the Episcopal Theological School at Cambridge, Mass. He expects to be graduated in the spring of 1911.—Fred W. Witherell, XI., is lecturer in civil engineering, Columbia University, giving the work of Professor Black, who is on leave of absence.—Bowditch is proud to announce the arrival in his family of a daughter, Sylvia Church, on Aug. 19, 1910.—We are still interested in the news that Draper, Bowditch and Ziegler are hard at work on the Class Book, whose appearance is eagerly anticipated. Their work will be much furthered if every member of the class who has received a statistic blank will forthwith fill it out and mail it to Ingersoll Bowditch, 28 State Street, Boston, Mass. The class has *arrived*, and we all want it to stay.

1901.

ROBERT L. WILLIAMS, *Sec.*, 19 Pleasant Street, Cambridge, Mass.

This is our tenth year out of the Institute, and, as many interesting things have happened to most of us since our graduation, it is high time that they are chronicled in book form for the mutual consolation, inspiration or what not of the members of the class. Accordingly, the secretary, as requested at the last annual meeting, proposes in the near future to have printed a class record, and urgently requests that every one reply *at once* to the circular which will be sent him. We also would be pleased to receive any suggestions or photographs taken at the All-Technology Reunion, for the record book.—Lawrence S. Butler has associated himself with Lyman A. Ford, '89, and Leslie A. Oliver, '00, the firm being Ford, Butler & Oliver, practising architecture at 103 Park



Avenue, New York.—Ellis F. Lawrence writes the secretary of the arrival of his third son on June 10. We shall expect them all to go to Tech.—Harry E. Dart is in charge of the mechanical and electrical work for Buck & Sheldon, Incorporated, of Hartford, Conn.—Lammot duPont, as superintendent of the E. I. duPont de Nemours Powder Company, has the supervision of the manufacture of all the black powder other than blasting powder made in this country. He is married, and has four children.—Charles I. Willard is connected with the legal department of the Victor Talking Machine Company.—George M. Spear is with the engineering department of the Cramp Shipbuilding Company.—F. W. Puckey is an architect at Wilkesbarre, Pa. He has studied in Paris and travelled in Europe.—William M. Vermilye has recently gone from Boston to Chicago, where he is connected with the Farish Stafford Company, commission merchants, 322 Medinah Building, and writes he will be especially glad to meet any of the '01 boys, as he is but little acquainted.—W. J. Heinritz is an expert on foreign soil. He started last March on a trip around the world.—L. E. Williams writes from Buffalo:—

Life is just one — thing after another, but its vicissitudes never bring me nearer to Boston than my present station. There is a rather live bunch of Tech men here, among others, Lane and Danforth of our class, to say nothing of Brush (who never turns out with the bunch on account of snow and other troubles on the B. & L. E. R.R.).

—Edward H. Davis is registrar of Purdue University, and also associate professor of economics.—The following changes in address have been recently received: C. L. B. Anderson, P.O. Box 513, Washington, N.C.—George D. Atwood, 149 Broadway, New York city.—Charles M. Culp, care of E. G. Shorrock & Co., Seattle, Wash.—Harry C. Folsom, 316 East Market Street, Los Angeles, Cal.—G. E. Gustafson, 3948 Maple Square, Lake View Station, Chicago, Ill.—Louis R. Henrich, 89 State Street, Boston, Mass.—Alonzo K. Isham, 2312 1st Avenue, North, Seattle, Wash.—E. F. Lawrence, 453 East 21st Street, North, Portland, Ore.—Julius E. Ober, 222 North Craig Street, Pittsburg, Pa.—A. W. Peters, 43 Exchange Place, New York city.—Walter Scott, P.O. Box 69, Lawrence, Mass.—Edward Seaver, Jr., Holden Street, East Pittsburg, Pa.—George P. Shute, 1091 South High Street, Columbus, Ohio.—Solon J. Stone, 902 Maryland Trust Building, Baltimore, Md.—A. K. Trenholme, 1436 East Glison Street, Portland, Ore.—John A. Trott, 50 Harvard Street, Cambridgeport, Mass.—Mr. Matthew C. Brush has resigned as general manager of the Buffalo & Lake Erie Traction Company of Buffalo, N.Y., to become assistant to Mr. C. S. Sergeant, vice-president of the Boston Elevated Railway. Besides being general manager of the Buffalo & Lake Erie Traction Company, Mr. Brush was general manager of the Jamestown, Chautauqua & Lake Erie Rail-

road, and Chautauqua Steamship Company and the Lackawanna Transit Company.

1902.

FREDERICK H. HUNTER, *Sec.*, 75 Park Street, West Roxbury, Mass.

---

Since the annual meeting in June there has been no gathering of the class, and very little news has reached the secretary. An informal dinner is being arranged for in Boston early in November, and this, with the usual business at New Year's, will probably bring in the usual large amount for the January number of the REVIEW.—Brainerd was married on the evening of October 3, in St. Mark's Church, West Orange, N.J., to Miss Mildred Eastwood Lighthipe.—Robert Pope, we hear, is to be the next bridegroom in the class, as his wedding takes place about the middle of November. Pope, since previously heard from, has established an office at 103 Park Avenue, New York city.—Pendergast's engagement to Miss Gertrude Florence Niles, of Wellesley Farms, Mass., was announced in August. We understand that this wedding also is soon to come off.—Mardick sailed for Europe in October, to be absent about six months on a trip combining business and pleasure.—Manley is superintending the laying of pneumatic service conduits in New York city.—Millar's residence address is 33 Washington Park, Newtonville, Mass.—W. V. Morse has joined our "proud and happy fathers," a daughter having arrived early in July.

1903.

FREDERIC A. OLMSTED, *Sec.*, 93 Broad Street, Boston, Mass.

---

Miss Alice F. Blood has been made assistant professor of chemistry at Simmons College. Miss Blood has been a member of the American Chemical Society and the American Association of Home Economics. She pursued graduate work at Yale University after leaving the Institute.

1904.

EVERETT O. HILLER, *Sec.*, care of Pneumatic Scale Corporation, Ltd., Norfolk Downs, Mass.

ADDISON F. HOLMES, *Asst. Sec.*, Mass. Inst. of Tech., Boston, Mass.

---

The result of the hotly contested election is indicated above. The heat of the election, to be sure, was due merely to the fact that it was conducted about midsummer. To quote from a letter to the new secretary from the retiring secretary:—

Of course, the big conception of the secretary's function is to maintain a common interest among his classmates in each other and in the "Stute." The means are two, dinners or outings and REVIEW articles. Though both are inefficient in attaining the main object, they are the more obvious methods.

The more obvious methods mentioned will certainly be resorted to. What are some of the less obvious methods? Each '04 man can help by suggestion and co-operation. Take the trouble to look in the geographical index of the Register of Graduates and see what '04 men are near you. Call them up (a few moments' work), and let the secretary know the facts about their achievements, which they are too modest to disclose for themselves. Put yourselves out a bit for the other fellows, and see what an interesting '04 article will appear in the January REVIEW. If you have not a Register, let the secretary know, and he will supply one.—The following which appeared in the Boston *Transcript* of Sept. 22, 1910, speaks for itself. '04 is surely coming to her own.

Mr. and Mrs. Edward W. Coffin, of East Orange, N.J., announce the engagement of their daughter, Miss Clara Josephine Coffin, to Selskar M. Gunn, of Boston, professor of sanitary biology in the Massachusetts Institute of Technology. Professor Gunn is one of the foremost men of this country in his profession.

—The secretary met Galusha in September. Don had but lately recovered from an operation for appendicitis. Though hard hit for a while, he is fast returning to his usual health.—Haar writes from Schenectady, N.Y.:—

I am writing this for the primary purpose of sending you a dollar. I'm sure I don't know whether it is for this year's dues or for next. Steinrok has transferred his headquarters to Herkimer. Needham was there for a few days, but is now back in England.

Haar sets a good example.—Evarts W. Charles writes:—

On June 24, 1909, I was married to Elizabeth Jean Kent, daughter of Mrs. Henry West Kent, of Milwaukee, Wis. We are now making our home at 140 Firglade Avenue, Springfield, Mass. On April 1, 1910, a nine-and-one-quarter-pound son was born to us. Since September 1, 1909, I have been a Christian Science practitioner.

—Charlie Homer states that he is the "Co." of A. P. Homer & Co., 88 Broad Street, Boston, Mass., dealers in motor boats and engines. He and his family, consisting of wife and two-year-old child, are located at the old stand, 12 Allyn Terrace, Quincy, Mass. He has not lost the hearty manner which won us as fellow-students.—Holcombe writes that he has resigned from the Patent Office to take a promising position of considerable responsibility with

Carr & Carr, patent attorneys, 510 Pine Street, St. Louis, Mo.—The secretary has left his teaching work at the Institute to take the position of mechanical engineer with the company noted above. The company's machinery is putting up most of the standard package goods of the country.—We are sorry to note that a classmate of our earlier years passed away on July 19, as the result of an unsuccessful operation for appendicitis. Edwin R. Crane, though with us at the Institute but a short time, was well liked and respected by those with whom he came in contact. The sympathy of the class was extended to his family by Sweetser.—Richard K. Hale has established himself as consulting engineer at 85 Water Street, Boston. Hale has done good work, and deserves the success which is coming his way.—In closing, the secretary is voicing the sentiment of '04 in most heartily appreciating the effective service of its retiring secretary. R. A. Wentworth has always shown a high degree of loyalty and unselfish devotion to the welfare of '04 and the Institute. Here's to you, Reggie!

1905.

GROSVENOR D'W. MARCY, *Sec.*, 246 Summer Street, Boston, Mass.

As usual, there are a good number of wedding announcements to head the column. On the 15th of June James Harvey Payne and Miss Nettie Elva Prussia were married at Albion, N.Y. They are living at Yorktown, Va.—Robert Wilbur Morse married Miss Edith Alice Boone at New York on August 6. Their address given through August was Hotel Raleigh, Washington, D.C.—Fred Hathaway Abbott and Miss Elizabeth Curtis Kendall were married August 10 at Winchester, Mass.—James McClurg Lambie and Miss Helen Sarah Thistle were married at Mountain Lake Park, Md., on August 17, and will be at home at Washington, Pa., after October 1.—Frank Herbert Langworthy married Miss Bertha May Shaw Perley at Lynn on September 14.—Clarence Edward Gage and Miss Bertha Maria Crosby were married in New York on September 21.—A newspaper clipping without date reached the secretary, telling of the wedding of Carl T. Humphrey and Miss Helen A. Richards, of Weymouth, Mass. Humphrey is professor in the department of Civil Engineering at Villanova College, Villanova, Pa.—Alden Merrill and Miss Emeline Cook, of Torrington, Conn., were married on October 5.—Robert Morse Folsom and Miss Hattie Frances Skillen were married on October 12 at Reading, Mass. Folsom is assistant superintendent of the Everett works of the Boston Consolidated Gas Company.—The secretary has received a card announcing the betrothal of Miss Rose Guterman, of New York, to Samuel Shapira on October 18.—The *Boston Journal* of October 12 had a notice of the engagement of Selskar M. Gunn, instructor in



sanitary biology at the Institute, to Miss Clara Josephine Coffin, of East Orange, N.J. To quote the *Journal*, "Professor Gunn is one of the leading men of the country in his profession."—The engagement of Edward T. Steel and Miss Edith R. James, of Brooklyn, has been announced. Steel has been transferred from the Ponce Electric Light Company to be general superintendent of the Savannah Electric Company, Savannah, Ga., for Stone & Webster.—A. O. True is assistant sanitary engineer with the New York State Department of Health at Albany, N.Y.—Raymond Ware is of the firm of White, Ware & Co., handling Corbin motor cars, at 1024 Boylston Street, Boston.—William Tufts is designing for the Canadian Pacific, and has just finished the million-dollar addition to their Montreal station. He reports that E. M. Read, Jr., is supervising building engineer for the west, located at Vancouver, and is married and a dad now. Tufts' address is Windsor Station, Canadian Pacific Railway, Montreal, Canada.—Harry Wentworth had a very interesting letter from John Damon, telling of the floods and operating difficulties of last spring, leading to his appointment as chief engineer of the Ames department of the Telluride Power Company, in addition to which he has general oversight of the operation of the system. Speaking of power in Colorado, he says there is plenty, but that which is easy to develop is either far from the market or already taken up. There is a great deal of power which can be developed at a little higher cost, and, if all possible were developed, there would be enough for the whole United States for some time to come. Damon's address is care of Telluride Power Company, Telluride, Col.—Wentworth, as manager of the Huff Electrostatic Separator Company, has a chance to canvass the whole mining country pretty thoroughly, and they have organized and are operating and developing the Mount Champion Mining Company. Their gold claims near Leadville, Col., appear to be a very attractive proposition, according to the prospectus.—Roy Allen writes that he is again out of the dear old U. S. A., and other environs of the "Hub" and M. I. T., and back in the land of Greasers, frijoles, tortillas and chili. His company decided to reopen the mine, and wanted him to come back to keep things going. As an inducement, they offered a substantial increase in the "necessary," and Roy was persuaded, the only pity being that they didn't do it before the '05 statistics were sent in, so that the average might have been raised a few plunks. The work keeps him busy from fourteen to eighteen hours a day, and a union day on Sunday, so he is trying to earn his pay, and doesn't expect to get back again for two years.—Warren K. Lewis has given up his position with W. H. McElwain Company to accept an appointment as assistant professor of industrial chemistry at the Institute. He is one of the youngest men ever to hold such a position at the Institute, and has the record for the short time



Webster.—Announcement is made of the engagement of Herbert Whiting to Miss Helen J. Gough.—We hear that Cy Young, VI., is the whole push in Manila, being city electrician, consultant to the Telephone, Light, Gas and other companies. In the capacity of city electrician he was sent around the world last year on a tour of investigation. We hope to have a letter from him for publication in the next number.—George Frederick White, '06, has accepted the call to the Richmond College, Richmond, Va., where he will be associated with Dr. E. C. Bingham in the chemical department.

1907.

BRYANT NICHOLS, *Sec.*, 143 Garland Street, Everett, Mass.  
W. W. BIGELOW, *Res. Sec.*, care J. R. Worcester Company,  
Waltham, Mass.

### I. *On the Part of the Secretaries.*

For two years the secretaries have endeavored to keep in touch with the members of the class by the "Correspondent System," *i.e.*, by having men in different centres of the country who were expected to communicate with the '07 fellows in the vicinity, and forward any news received to the secretaries. For a time this plan worked very well, but during the past six months several of the correspondents have resigned, and the returns from this source of information have been very small. So it has been decided to discontinue this system. The secretaries will try to get news from the men as much as possible at all times, and two letters per year will be sent out to all members of the class, one in December and one during the first part of May. Bills for class dues will be sent at the same time. In this way we hope to keep all '07 men posted on events of importance in the class, and at the same time remind them that their secretaries always welcome letters and notices of changes of address. As usual, after the numerous letters and notes received in June, material for this number of the REVIEW is rather scarce. It is up to the class whether the next number is better in this respect or not.

### II. *Letters.*

Lawrence C. Hampton writes on the letter-head of the Independent Powder Company of Missouri, located at Joplin, Mo.:—

I was very much interested in the last REVIEW to note the number of '07 men who had married. Not finding my name among them, I will state that on April 21, 1909, I was married to Miss Harriet M. Clark at Grand Rapids, Mich. For the past year and a quarter I have been employed by the above company as engineer and assistant superintendent. I have constructed a new powder mill for making gelatine dyna-

mite, and have built about six miles of narrow gauge railroad around through the plant, which included building several high trestles. . . .

Hampton encloses a clipping from the Joplin *Daily Globe* telling of an address made on Aug. 26, 1910, by Professor Richards of the Institute. The article states that "it was the largest gathering of technically trained mining men ever gotten together at one time from the immediate mining district," and speaks of Professor Richards as "perhaps the greatest American exponent of the principles of ore dressing, known to every mining man in America either in person or through his text-books."—J. P. Chadwick writes from Needles, Cal., as follows:—

I left the Tennessee Copper Company last April with the idea of getting experience in other plants. I am now assistant chemist for the Needles Mining and Smelting Company. Am at present doing all the "wet work," but, as soon as another man comes, shall start on the fire work, which is really what I came here for. The smelter here is principally a lead one, and not very large. It is extremely hot here. Since I have been here 117° in the shade has been the record.

—W. B. Gonder writes from Bureau of Science, Manila, P.I.:—

Prospects were never brighter for fortune-hunters in these islands than they are now. All a young man needs is thrift and patience. A big bunch of Tech men here,—Bill Adams, Paul Fanning, Poland, president of railroad company, Brown, '08, Caton, '08, Reyes, '08, Walker, '04, Kimball, Nichols, '08, formed the Far Eastern Technology Club July 2. Poland is president; Bill Adams, secretary. Bill is as crazy as ever. . . .

—Clif Draper has moved again. This time the address is 1860 Columbia Road, Washington, D.C. He was living in an apartment with three other fellows, and they liked it so well that they decided to fit up quarters for themselves. He writes:—

We took a corking fine apartment in one of the new apartment houses just opened up, and we are buying our own furniture and other things and furnishing it in regal style. There are four of us: M. W. Sage, '07, Myron M. Davis, '08, and myself, Tech men, and a Yale, '08, man. We have a decided Tech majority, and in our reception-room our big Tech banner waves proudly over Yale.

### III. *Miscellaneous Jottings.*

A welcome letter was received in October from John Frank. He is with the Ilg. Electric Ventilating Company, manufacturers of air-cooled motor fans, blowers and exhausters, 154 Whiting Street, Chicago, Ill. John writes:—

I guess you think I am a sweet correspondent. However, I've been so mixed up with business affairs, love affairs, tennis, and impeaching Senator Lorimer that I haven't even had time to be loyal to my Alma

Mater. . . . The 1907 men turn out pretty regularly at the Thursday luncheons. Last week there were eight present out of twelve men in Chicago, which is a good showing. Carl Bragdon has gone to Cleveland. Sam Marx is making a name in architecture. He won a competition for a big art museum in New Orleans, and is putting up the building now. . . . Don Robbins was out here a short time ago. I enjoyed hearing Boston gossip from him. He tells me that Tommy Gould did the disappearing act and came up married. Shame on Tom! We expect to have an '07 dinner soon, and it's going to be a good one because we're all dry. I haven't had a drink since the 1909 reunion, and it is beginning to tell on my nerves.

I've recently bought an interest in this manufacturing company. I hold the job of chief engineer, and later shall have charge of eastern sales. I work thirteen hours a day, which is some contrast to the forty minutes a week I used to put in at the Edison Company. However, I like it immensely. It's different to work for yourself. I expect to be in Boston early in the spring." . . .

—There are four men, so far as we know, to add to the list of married men in the last REVIEW. W. I. Griffin belongs on the list, but we do not know the date.—Charlie Allen married Miss Ruth P. Kane, of Spencer, Mass., on Sept. 10, 1910.—"Tommy" Gould was married on Sept. 14, 1910, to Miss Nina G. Clapp, of Murray Hill, Me.—Bob Thayer, as predicted in the July REVIEW, married Miss Maud Gilbert, of Chelsea, Mass., on Sept. 1, 1910. Bob's address now is 79 Harvard Street, Chelsea, Mass.—A clipping from the *News Press* of Poughkeepsie, N.Y., states that L. C. Whittemore, engineer for the New York Board of Water Supply, who has been stationed at Poughkeepsie for the past year, has gone to Cornwall, N.Y., for a similar position. He will be employed in field work at the aqueduct tunnel which is being put under the river at Cornwall.—The class extends its sympathy to Mr. and Mrs. K. W. Dyer, whose infant son died recently at their home in Cromwell, Conn.—We also express our best wishes for the speedy recovery of A. H. Donnewald, who was injured as explained in the clipping herewith, taken from the *St. Louis Republic*:—

Notwithstanding his long journey of about two thousand miles from the Republic of Mexico to St. Louis, while suffering with a bullet wound in the leg, received two weeks ago, Albert H. Donnewald, of 3709 Finney Avenue, is doing well at Mullanphy Hospital, where he underwent an operation last Wednesday. His condition is not considered unduly serious, though he probably will be confined in the hospital for another week.

Donnewald is a son of Albert W. Donnewald, secretary of the Donnewald Ice and Coal Company, at 2619 Laclede Avenue, a graduate of the Massachusetts Institute of Technology at Boston and a former student of St. Louis University.

After finishing his education, he got a position with mining interests in Mexico.

Donnewald, who is twenty-three years old, has been in different mining camps of Mexico in the last two and one-half years. Nearly two

weeks ago he returned to the place where he was living late in the evening with two companions, and the trio found the doors locked.

Not wishing to awaken any one, they decided to enter through a window, and Donnewald, taking off his coat and handing it to one of the other men, was preparing to climb through a window, when a large revolver fell out of its holster in the inside of the coat.

Striking the ground, it was discharged, and the bullet entered the calf of Donnewald's leg. The bone was badly shattered, and the young man thought it could be cared for at camp. It rapidly grew worse, however, and, when his family heard of the matter, they insisted on his coming home immediately for treatment.

—It is a noteworthy fact that within the past year the W. H. McElwain Company, shoe manufacturers, have taken in some twenty-five young college men for positions that do not of necessity require a technical training. Almost two-thirds of them have been Tech men, and the company seems to prefer them. 1907 now has with this company D. G. Robbins, superintendent of box factory; G. S. Gould, superintendent of box toe and counter factory; Lawrence Allen, manager of cost department; H. S. Wonson, assistant manager of cost department; Bob Albro, in labor department at Manchester, N.H.; and K. W. Richards, in labor department in Boston.—An error was made in the last REVIEW in stating that the address of J. M. Barker was Watertown, N.Y. That is the address of J. M. Baker. Jim Barker is still with the American Bridge Company, his address changing from time to time. Letters should be sent to him at 20 Oxford Street, Pittsfield, Mass., whence they will be forwarded.—J. D. Whittemore is with the Rochester Railroad and Light Company, 34 Clinton Avenue, North, Rochester, N.Y.—J. S. Nicholl has returned from Japan to America on account of poor health, and expects to stay in the west about a year. His address is 724 MacDonald Avenue, care Dr. G. H. Shull, Santa Rosa, Cal.

1908.

JOHN T. TOBIN, *Sec.*, care of F. F. Harrington, Bridge Engineer, Virginian Railway Company, Norfolk, Va.

RUDOLPH B. WEILER, *Res. Sec.*, 5315 Washington Avenue, Chicago, Ill.

---

I. *On the Part of the Resident Secretary.*

We were greatly shocked to learn of the death of William Joseph Pierce, '08, on Sept. 8, 1910, at Akron, Ohio, after a short illness from typhoid fever. In this the class sustains its first loss by death of a graduate member. Prominent in athletics, always striving to uphold the honor of the class, the class loses one of its most ardent supporters.



William Joseph Pierce was born Aug. 20, 1884. He entered the Institute in September, 1904, having prepared at the Cambridge (Mass.) English High School, and immediately became prominent in athletics. He was a member of both the freshman and the sophomore tug-o'-war teams, the baseball team, and was a member of the 'varsity basket-ball team in his sophomore, junior and senior years. He was a member of the Mechanical Engineering Society and the Class Day and Spread Committees.

After graduation he entered the employ of the B. & R. Rubber Company of North Brookfield, Mass., occupying several responsible positions. On June 1, 1910, he took charge of the moulded rubber goods department of the Goodyear Tire and Rubber Company at Akron, Ohio, which position he held at the time of his death. To his untiring and enthusiastic work may be attributed his marked success in the rubber business.

E. R. H., '08.

At the meeting of September 13 the following resolutions were adopted:—

Whereas God in his infinite wisdom has seen fit to remove from our midst William Joseph Pierce, '08, be it

*Resolved*, That the Class of '08 of the Massachusetts Institute of Technology expresses the deep sorrow it feels in the loss of one of its prominent members, and be it further

*Resolved*, That a copy of these resolutions be sent to the parents of the deceased and a copy be published in THE TECHNOLOGY REVIEW.

—A bi-monthly meeting of the class was held at the Technology Club, Boston, July 12. In the absence of "Pop" Gerrish, who had arranged the dinner, Leslie Ellis presided. The following were present: "Nick" Carter, W. D. Ford, R. I. Ripley, Charlie Whitmore, G. M. Belcher, Lawrence Allen, C. S. Clapp, W. F. Grimes, C. W. Clark, A. A. Longley, B. W. Cary, F. A. Cole, Orrin S. Lyon, L. B. Ellis, H. F. Kuehne, R. C. Folsom, and one other whose name was not obtained. Every one voted the scheme of sending out reply cards a great success, and the fact that the attendance was double that at the May dinner proves this conclusively. At the close of the dinner some one suggested the beach, and practically the entire number, under the leadership of our old major, "Nick" Carter, set sail for Rowe's Wharf and embarked for Revere. An informal dinner was also held on September 13 at the Technology Club. The following were present: L. H. Allen, C. H. Bangs, C. L. Batchelder, A. E. Bremer, B. W. Cary, R. C. Caryl, G. A. Clatur, Langdon Coffin, F. A. Cole, H. A. Cole, Jr., H. T. Gerrish, W. F. Grimes, Jr., A. W. Heath, O. S. Lyon, S. C. Lyon, C. W. Morrison, E. A. Plumer, H. E. Weeks, C. W. Whitmore. After the dinner a short business meeting was held, at which "Pop" Gerrish presided. It was voted that the resident secretary be instructed to draw up for the class resolutions expressing its sorrow and regret at the death



of William Joseph Pierce, '08, and send a copy to the parents of the deceased and publish a copy in the REVIEW. The resolutions appear above. Notice was given of the approaching marriage of R. C. Caryl and C. W. Whitmore. It was decided not to go to the theatre, but to spend the evening at the club, so the fellows played pool, billiards and cards with more or less skill. There has been a consistent and steady gain in attendance at these meetings, and we hope it will continue. The meetings are held the second Tuesday in every other month. The next comes November 8. J. H. Locke sent in a negative answer on his reply card with the note, "Sorry, Pop, but I can't cut business the way I could classes." Another card with an affirmative reply bore the note: "Sure thing, I guess I can make up the price for once, although the G— E— Company are not any too kind in some things." Honorable mention is also bestowed upon the anonymous author of the following: "Sorry, but will be in camp at South Framingham with troop C, M. V. M."—Hedge is now with the commercial department of the Salt Lake Light and Railway Company, Salt Lake City, Utah.—Calloway has left the New York Edison Company, where he was assistant to the mechanical engineer, and joined the staff of Walter B. Snow, publicity engineer, 170 Summer Street, Boston, on July 25.—From results of data obtained it seems that the efficiency of correspondence varies inversely as the square of the distance (in miles) of the correspondent from Boston. Witness: we have just received a souvenir post-card from "Bunny" Ames as follows:—

I attended this Congress (El Congreso de Estudiantes Americanos [whatever that may mean]) as a representative of the Institute. I am preparing a report to send to President Maclaurin later. Better change my address to 916 Calle Echeverria, Belgrano, Buenos Aires, Argentine. I am still with the same company.

—V. M. Frey is mining engineer with the J. E. Baker Company, York, Pa., manufacturers of lime and shippers of stone. They have six plants in different parts of the country, and Frey's work is the improvement of operating methods and costs. Home address, 144 North Beaver Street, York, Pa.—C. W. Morrison and S. C. Lyon are with the plan department of the Factory Mutual Fire Insurance Company, 31 Milk Street, Boston, Mass.—H. S. Osborne is with the engineering department of the American Telephone and Telegraph Company, 15 Dey Street, New York.—F. T. Towle, 36 Cushing Avenue, Dorchester, Mass.—J. H. Locke, 112 Broad Street, Bloomfield, N. J.—John F. Greene, 1129 Hamilton Street, Spokane, Wash.—Joe Sando read a paper on "High Pressure Water Service for Fire Protection" before the Western Society of Engineers at Chicago on September 7.

II. *Matrimonial.*

Carl A. Hall was married Tuesday evening, September 13, to Miss Carrie Montgomery Straw at Concord, N.H.—Charles A. Whitmore was married Wednesday evening, September 28, to Miss Mary Abbie Bryant at Saco, Me.—Edwin R. Hall was married July 6 to Miss Jessie F. Stacy, of Somerville, Mass.—Rodney C. Caryl was married September 26 to Miss Jennie Elizabeth Bray, of Palmer, Mass. At home after January 1, 30 Torrey Street, Dorchester, Mass.—The engagement is announced of Samuel F. Hatch to Miss Florence D. Lord, of Greenland, N.H.—H. R. Calloway was married to Miss Nadine Eustis, Monday, October 3, at New York. At home after November 15 at 8 Webster Street, Brookline, Mass.

III. *Letters.*

From "Wild Bill" Adams, care Bureau of Lands, Manila, P.I.:—

*Dear Weiler,*—Your letter containing announcement of dinner came a few weeks late [dinner was held March 15]. Probably was a storm on the Pacific, so you know the reason I wasn't there, much as I would like to have been. Still, we are going to have an M. I. T. dinner in Manila some time soon to make up for lost time, and '08 will be well represented: C. O. Brown, Paul Fanning, Nichols, and a new arrival, we haven't found out yet who he is, and yours truly. There are four or five other fellows around Manila, and, if we can all manage to strike there at the same time, there sure will be something doing. Paul Fanning is leaving the San Mauricio Mining Company, and is to be the assayer in the Bureau of Science, so he will be in Manila permanently from now on. I am there all the time, but Brown and Nichols are out in the "bosque" most of the time. Just now Brown and I are at Baguio, the summer capital, living a life of ease, . . . and we both seem to be thriving on it. In fact, it is a hard thing to escape some sort of a snap out here, and you know man is always the same. The death-rate would decrease surprisingly if we only had to bury the ones who died from hard work. Hoping to see you all about 1913—in the summer, if you please—and with best wishes for your success individually and '08 as a whole.

—Bowman sends us an account of his trip through the west:—

*My dear Weiler,*—I returned from Seattle, Wash., a short time ago, and I saw so many Tech men that I know an account of them will be interesting to the boys of '08. I saw L. W. Thurlow for a few minutes at Brush, Col., while the Burlington was unloading baggage and express. He is chemist with the Great Western Sugar Company. The next Tech man I met was John Mullen at Denver, Col. He looked just as natural as life. In going through the mountains, I dropped off at Idaho Springs, and found R. E. Schirmer there as assistant manager of the Argo Mining Company. He announced the arrival of a son two weeks before. I stopped off a day at Provo, Utah, to see the plant of the Telluride Power Company, and found that the electrical engineer is H. G. Pastoriza, '07. Moore, '07, Humphrey, '10, Gilkison, '08, and Gray, '09,

are in the general offices there. Moore is secretary to Mr. Nunn, the general manager, and Humphrey and Gilkison are doing general engineering work. Gray is setting up a standardizing lab. I found Benjamin Bullard at Salt Lake City. He is married, as has been announced in the REVIEW. Ben says that married life is the only way, and intimates that those who haven't done likewise are merely camping out. I saw Al Place at Seattle. He is with the Seattle Electric Company in the electrical engineering department. I have heard that one of our Course VI. men in the western country has been flirting with the young chap who shoots arrows. The evidence, while very strong, is not complete enough to say more. Of the older grads, I met B. W. Mendenhall, '02, the commercial agent of the Utah Light and Railway Company, at Salt Lake City. Bullard is with him as a power salesman. George Whittle, '08, was in the city [Chicago] yesterday. He is with the Santa Fé Railroad in Texas. I see Kinsman and Pierce occasionally. The former is with the T. H. Symington Company, Railway Exchange Building, Chicago. No space is left for an autobiography, so I'll omit that until some other time.

—We have the following from Lyford on the letter-head of the Cudahy Packing Company, Kansas City, Kan., under date of August 23:—

*Dear Weiler,*—I notice in the "change of address" column of the last REVIEW that you have me down for Omaha, Neb. I am no longer in Omaha, but I am located here in Kansas City. I came to the company's plant here the first of last May to take charge of the laboratory. I like the work and city very much. The city is much more interesting than Omaha, compares very favorably indeed with some of our large eastern cities. I have just returned from the east, where I have been spending my vacation. Was fortunate in meeting some of the old Course V. men. Newhall and Drake were in the city, and Nichols came down from the Thousand Islands, and Karnan was home from St. Louis, spending his vacation. The five of us had dinner at the American House and an excellent time. Was sorry not to find all the Profs. at school. Summer school having ended, they were all away, and consequently I missed them. There are quite a few Tech men in Kansas City. I think this is a right good country for young men to come to, and, if they happen to be chemists, there are few places that offer greater opportunities than the laboratories of the Beef Trust.

—From "Ed" Hall:—

25 BYERS AVENUE, AKRON, OHIO,  
Sept. 24, 1910.

*My dear Weiler,*— . . . I have been here with the Goodyear Tire and Rubber Company since Sept. 1, 1908. For six months after I came here I was working in the factory ten hours per day, learning the business. I went through all departments, and finally ended up in the experimental department. The experimental work is divided into two parts, the chemical and the mechanical, and I am in charge of the latter. Lyman M. Bourne, '04, is head chemist, P. W. Litchfield, '96, is superintendent, and R. A. D. Preston, '11, is with us, and is now abroad for the company. There are about fourteen M. I. T. men in Akron, and

we get together about once a month very informally, and enjoy an evening of reminiscence and smoke, etc. I had a month's vacation in July, and was married on the 6th to Miss Jessie F. Stacy, of Somerville, Mass. Have you heard about Bill Barton, '08? He became the father of a fine baby-girl the first part of this month.

1909.

CARL W. GRAM, *Sec.*, 1609 St. Louis Avenue, East St. Louis, Ill.

MAURICE R. SCHARFF, *Res. Sec.*, Mass. Inst. of Tech., Boston, Mass.

### I. *On the Part of the Resident Secretary.*

With some trepidation the resident secretary, whose existence has been made necessary by the removal of Carl Gram to St. Louis, makes his bow. He is glad to report that he has heard from a number of classmates, but hopes for more letters in the future. All of you pick up class notes occasionally, and, if you'd only sit down once in a while and write them down, the REVIEW would have to be enlarged. The resident secretary would also suggest a general overhauling of pigeon-holes by those who haven't yet paid their dues. If you find you haven't paid, send in your dollar. There is money in the treasury, but it won't be long before we must plan for a five-year reunion and our first class book, so don't let that stand in the way. It is a source of deep sorrow that the first event chronicled should be the untimely death of a classmate. The following is an authoritative statement of how Clifton Hackett White, III., met his end at Buffalo on July 15:—

Clifton Hackett White was graduated from the Institute in 1909. Immediately after graduation he accepted a position as chemist with the Buffalo Smelting Works, Buffalo, N.Y. In June, 1910, he became an assistant in the electrolytic refinery, and it was while working in this department that he met with the accident which had such a sad ending. The accident occurred on July 15. Mr. White had climbed a ladder to fix a rubber connection on an outdoor hydrogen sulphide generator which had become disconnected. While on the ladder, he was struck in the face by the stream of hydrogen sulphide gas, and was seen to fall from the ladder, striking his side on a timber. Although medical aid arrived within a few minutes and everything that could be done was tried, heart action could not be started, and the doctors pronounced death due to suffocation, possibly aided by a weak heart. Mr. White was doing excellent and enthusiastic work in Buffalo, and had made himself a very valuable man. Even during the short period that he worked there he made many friends. He was active in the Tech Club, the Chemical Society, the Y. M. C. A. and in church work. He taught evening school last winter, and was a member of the University Club. During his four years at the Institute he was always prominent in stu-



dent activities, his work in the Tech Show being especially good. He was in the tug-of-war team in his freshman year, was a member of the track team, and treasurer of the Mining Engineering Society. Mr. Spaulding, '05, with whom Mr. White was associated, both in business and outside life, since his graduation from the Institute, has expressed the feeling we all hold for Mr. White: "He was an all-round sort of a fellow, manly, earnest, and eager to help others."

—A good many '09 men took their degrees in June. From among them Walter King has been added to the colony at the Institute as assistant in heat measurements.—Dick Ayres is back as instructor in heat measurements, and Washburn, VIII., has also been promoted.—Lovewell, I., Rew, I., Clifford, I., Chapman, III., Connolly, V., Dawes, VI., and Blood, XIII., are still here as assistants.—Gilbert, XI., is again private assistant to Mrs. Richards, and Schneider, VII., is pursuing advanced studies in the biological department.—Early in the summer Stevey (alias J. Newell Stephenson) dropped in and announced his marriage on March 30, at New York, to Miss Margaret E. Scott, of Wolfboro, N.H. He had just given up his instructorship at Lawrenceville, and the following letter, dated at Terre Haute, Ind., September 12, tells where he landed next:—

My work as instructor in the chemical department of Rose Polytechnic Institute begins today. I am to have charge of the sophomore laboratory work, with the necessary recitations, two lectures a week in organic chemistry, oil and gas analysis, and later on a prospective course in industrial chemistry.

The school is pretty well equipped, and the fellows are in great demand around here after graduation.

Terre Haute is a beautiful city. The streets are straight, and run north and south and east and west. There are several parks, one of them within a block of where "wifey" and I are keeping house. The Wabash River is about a mile west of us.

The theatres and moving-picture shows run all day Sunday, and I guess T. H. makes most of the beer consumed in the state. One doesn't see many drunks on the streets, though.

The cost of living seems very low. Remember me to the bunch.

—On July 12 Bob Keeney, who spent two years in our midst, called. He graduated at the Colorado School of Mines, Golden, Col., in June, and is returning for advanced work and research in metallurgy (who'd have thought it of Bob?). He will also assist the superintendent of the construction of their new testing laboratory, which will be completed during the coming year.—George E. Wallis, II., met the resident secretary one day, and blushing confided the announcement of his engagement to Miss Marcia K. Perkins, of Wenham, Mass. It's a sure thing. There are a lot more who've "gone and done it," and it's a pity they wouldn't write in and say so. For example, though no news



of George Witmer has been published, the following was discovered in the *Boston Post*, August 14:—

The engagement of Mr. George S. Witmer, a recent graduate of the Institute of Technology, to Miss Belle Stone, daughter of Mr. and Mrs. George E. Stone, of Warrenton, Va., is creating much interest among Mr. Witmer's intimates here, more especially as the marriage will follow on Wednesday next. Since leaving Boston, Mr. Witmer has an excellent position in connection with the Canal Commission in Panama.

—And, lest any one should say that there is no romance in a Tech man, read the following from the *Salt Lake Tribune*, August 16:—

#### PRETTY ROMANCE AT THE SEMLOH HOTEL

A pretty little romance which was enacted at the Semloh Hotel the latter part of last week would make a good rival for the popular drama, "The Time, the Place and the Girl." At least the title of that play could well be applied to the romantic adventures of Miss Hattie Thurman, who was substituting as a telephone private exchange operator at the hotel while one of the regular operators was away on her vacation.

Miss Thurman agreed to take the "board" for a week, beginning last Friday, but, alas! (so far as the regular operator was concerned, who expected a week's rest, and was forced to come back and change her vacation plans) she fell in love the first day she was on the job, and is now the happy bride of a commercial traveller, Newman Gregory, of Joplin, Mo., with whom she left the city Sunday.

After becoming acquainted, the pair lost little time in making arrangements for their wedding, resulting in the regular operator being called back to work Sunday morning.

—During July the resident secretary went south for a stay of several weeks. On the boat going to New York he met Main, II., who is with his father of the class of '76. On the way south the resident secretary stopped several days in Birmingham, Ala. On the first street-car he boarded he sat down next to Phifer Smith, VI., who is with the Birmingham Light and Power Company. And one day he dropped in at the draughting-room of the Tennessee Coal and Iron Company, and found John Brooks, I., and Joe White, XI., at work there.—Bill Kelly, V., has been in several times lately. Bill sails for Europe about the middle of October, to continue his studies for a Ph.D. at Leipsic. He says his *Arbeit* will be on "The Poisoning Action of Mercuric Chloride in Catalytic Reactions," and actually talks as if he knows what it means.—Jack Elbert, X., is somewhere on the other side, also, pursuing advanced studies.—Jack Moses, VI., is with William P. Crockett & Co., electrical specialties, Chicago, and writes that "everything is lovely and the goose hangs high."—The following letter on a United States Geological Survey letter-head locates Dort, I.:—

I've changed address again, and now my hat is hanging up with the Mormons.

It is a great country out here, and it seems as if there was a much better opportunity than in the east.

Uncle Sam is a good task-master, and I like the hydraulic work very much. Please remember me to any of the fellows, and tell Walter to send the next REVIEW to Salt Lake.

—And, speaking of letter-heads, the following comes on a sheet headed "William F. Jones, Mining Geologist. Geological Examinations of Coal and Oil Lands":—

I left Mexico in March, without having time to go over to Velardania and see Lord and the rest of the fellows over there. I got shipped up here into the coal fields to geologize some Guggenheim coal land near here. On August 1 I resigned from Spurr & Cox, Incorporated, and am now looking out for myself. I am making an examination of the mines here at Carbonado, and expect to be here two months or so.

## II. *On the Part of the Secretary.*

The secretary encloses a program of the fifty-first annual commencement exercises of Olivet College, Olivet, Eaton County, Mich., wherein is announced the conferring of a degree of Master of Arts on Mayo Dyer Hersey, B.S., in mechanical engineering. Further, Carl writes in part as follows:—

1609 ST. LOUIS AVENUE, EAST ST. LOUIS, ILL.  
Sept. 13, 1910.

The time passes so rapidly now that I did not realize that it was a month since I received your letter from Natchez, and that another REVIEW letter was due. I have but just accustomed myself to the work and hours here, so have had little time to correspond with any of the fellows, and there are only a few '09 men around here, so nothing much doing for news.

One evening, August 24, however, I was invited to dinner by R. Blankenbuehler, X., '09, and Chandler, X., '08. They knew that Charlie Field, 3d, our former organic chem. friend, was passing through St. Louis on his way from Washington to Boston, and so had arranged a little theatre party. It was a pleasant surprise, and seemed mighty good to be again with some of the old gang from Tech. Wemple, X., '08, and Kernan, V., '08, together with Charlie Field, met us at the theatre, making in all a party of six. We sure had a good time talking over old times. And there is one thing where we have the jump on you out here, and that is *good beer*. And we pay only ten cents for Budweiser, whereas you guys get stuck "two bits." This is surely a great town for beer, especially this side of the river in East St. Louis,—usually a saloon on all four corners of the street. Well, our little party did not break up until about 12.30, and we resolved to have regular informal dinners, to try to get the foundation for an alumni club. There must be some more Tech men here, and we are going to dig them out.

Jim Finnie is back in Boston, has been stopping with Art Shaw this

summer at "234." Art, as you may know, is now with the Boston & Albany Railroad in the office, doping out bridge problems and how to make a turnstile so Ray Allen can get through. The other night I met Charles E. Ware, Jr., VI., who was with our class through junior year. We are planning to get together again soon. Chet Pope was to start in September 12 as general engineer in charge of the entire ink manufacturing department at Forbes Lithographic Company. That is all the class dope I have now.

As for myself, now that the weather is getting cooler, I am beginning to enjoy life. The work is very interesting, and I like it immensely. I am trying to learn the steel business, so, when I "arrove," I was put in the "core-room," pounding sand making cores. Believe me, after taking it easy, with no hard *physical* labor for four or five years, pounding sand was no joke. I stayed in that department for two weeks, and was then shifted to the foundry, where I had charge of a machine which makes moulds by jarring instead of being rammed by hand. It is simply in the experimental stage. I had a very narrow escape there, as a two-ton truck by the merest chance was prevented from coming down on top of me while I was in a sort of pit. The cap screws on a cylinder head were stripped off, letting the truck fall, and, if a rail had not happened to get wedged under the truck as it fell, I would have been chucked on the scrap heap. As it was, the other end of the rail came up and soaked me a crack in the ribs that I won't forget in a hurry. I got off with a couple of scratches and bruises.

After working on the jolting machine, where, by the way, I had to learn the deaf and dumb language, as I had under me Polocks, Turks, Macedonians, and Americans, and all around were every nationality from the North Pole to South Africa, I started in on some *real work*. They put me to ramming sand in the foundry. This was right through all that hot weather, and, let me tell you, it gets *some hot* in a steel foundry on a hot day. Couple that with punching sand with a 15# iron rammer, with the temperature about 110, and it is decidedly a bad combination. But, say, you feel great at the end of the day after getting a good scrub and enough under your belt for seventeen ordinary mortals. From here I went to the chipping-room, or finishing department, where the steel castings are finished up. I did some inspecting on castings, but it was mostly butting in to see how the different pieces were finished, etc. I am now back at my old stand in the chemical laboratory. The head chemist has gone on his vacation, and, as somebody was needed to do some laboratory work, they put me in, and I immediately began to bust everything I could lay my hands on, as, much to their sorrow, I found glass was different from steel castings. I don't know where I shall go next, but I want to go on the "furnace floor," where the steel is made in the large open-hearth furnaces. This will be devilish hot work, but very important, and is most interesting.

Remember me to each and all of the '09 men who are back at the 'Stute this year. I wish I could be there when the old place opens again, so I could grab the hands of all the familiar ones. Rogers' corridor would certainly look good to me. If President Maclaurin or any one else should be taking a trip this way, for goodness' sake let us know, and, if we can't scrape together enough Tech men, we will get some kind of an angry mob together to make a noise and welcome him.

### III. *Special Extra from the Resident Secretary.*

Two more of our classmates have joined the Benedicts, and one of them is our class president, Jim Critchett. Sky rocket for Jim! Now read the following, dated October 13:—

Miss Ruth Taylor Walton, daughter of Horace M. Walton, director of music in the Newton public schools, and James H. Critchett, of Chicago, formerly of Watertown, son of Frederick E. Critchett, were married last evening at the home of the bride's parents in Newtonville, Rev. Grover G. Mills of the First Unitarian Church, Watertown, officiating. The bride's only attendant was the maid of honor, Miss Anna Lemon, of Newton. The bride is a graduate of Radcliffe, and was a teacher in the Stearns School, Newton. The bridegroom is a graduate of the Institute of Technology.

And a still later bulletin announces that "Spec" Paine was only a week behind, for he was married on Wednesday, October 19.

### IV. *Changes of Address.*

E. Q. Adams, 108 Victory Avenue, Schenectady, N.Y.—P. L. Adams, 88 Sherman Avenue, Newark, N.J.—C. L. Batchelder, City Hall, Lowell, Mass.—L. S. Border, Navy Yard, Mare Island, Cal.—C. J. Brown, care St. Anthony & Dakota Elevator Company, Minneapolis, Minn.—J. N. Brooks, care Tennessee Coal & Iron Company, Birmingham, Ala.—D. K. Bullens, 52 Bennington Street, Newton, Mass.—J. H. Critchett, 6557 Kimbark Avenue, Chicago, Ill.—M. M. Davis, United States Patent Office, Room 378, Washington, D.C.—J. C. Dort, care United States Geological Survey, Salt Lake City, Utah.—Charles Freed, 41 South Burritt Street, New Britain, Conn.—B. R. Fuller, Camp Ten, Bayard, Neb.—C. W. Gram, 1609 St. Louis Avenue, East St. Louis, Ill.—M. D. Hersey, United States Bureau of Standards, Washington, D.C.—F. Jaeger, P.O. Box 136, Perth Amboy, N.J.—W. F. Jones, Carbonado, Wash.—W. J. Kelly, Robert Schumann Strasse, 3 11.1, Leipzig, Germany.—L. A. Loomis, care W. H. McElwain Company, Boston, Mass.—E. D. Merrill, R. F. D. 1, Box 100, Fort Collins, Col.—A. B. Morrill, 3749 Lake Avenue, Chicago, Ill.—A. L. Moses, care William P. Crockett Company, 502-4 South Canal Street, Chicago, Ill.—B. W. Pepper, care Underwriters' Bureau of New England, 93 Water Street, Boston, Mass.—Clarence Reids, 64 Hanks Street, Lowell, Mass.—A. M. Rosenblatt, care Consumers' Power Company, Rapidan, Minn.—Harold Schaffer, Edna Mine, Boise County, Ida.—A. L. Shaw, care Engineer of Structure, Boston & Albany Railroad, South Station, Boston, Mass.—L. R. Soule, 441 East Butchell Avenue, Akron, Ohio.—J. N. Stephenson, 2011 North 9th Street, Terre Haute, Ind.—F. T. Towle, 36 Cushing Avenue, Dorchester, Mass.—M. P. Whipple, 427 Linden Street, Camden, N.J.—J. H. White,



care Tennessee Coal & Iron Company, Birmingham, Ala.—J. A. Willard, care Trenton Iron Company, Trenton, N.J.

1910.

JOHN M. FITZWATER, *Sec.*, 119 Henry Street, Brooklyn, N.Y.

G. BERGEN REYNOLDS, *Res. Sec.*, Southbridge, Mass.

In reply to the many questions which have been asked regarding the Alumni Association, it is hoped that the following information will be helpful. All graduates of the Institute are regular members. Any non-graduate member of a class which has been graduated may become an associate member on election by the executive committee. Applications for membership may be had by sending for them. The dues for the regular and associate membership are two dollars per year. These dues should be sent to Walter Humphreys, secretary and treasurer. In filling out the application blanks, it will save much delay if each applicant will be sure to have his application endorsed by two graduates or associate members. As to the class dues, all notices of dues and other literature will be sent to each member of the class when necessary. Be sure that the secretary has your correct address in his card catalogue. Either secretary will be glad to receive letters from the fellows, and will gladly give any information regarding other members in the class when it is possible. The November issue of THE TECHNOLOGY REVIEW will be sent to all the members of the class and hereafter only to those who have paid their two-dollar dues to the Alumni Association. All corrections and omissions should be reported promptly to the secretary. The following names and addresses are those which have been received on the postal cards recently sent out:—

*Course I.*—F. Stanley Howe, Exeter Park, Cambridge.—Kennett P. Armstrong, 112 Sycamore Street, Somerville, Mass., is with the Metropolitan Water Works. At present he is located in South Framingham.—Clifford S. Ashley, 32 White Street, Taunton, Mass.—Stuart Chase, 84 State Street, Boston, Mass., is with Harvey S. Chase & Co., certified public accountants. After attending the Institute for two years, Chase went to Harvard, from which he has since been graduated.—Richard P. Watson, 47 Bainbridge Street, Roxbury.—Ralph A. Smead, 109 Bowen Street, Providence, R.I.—John Avery, Jr., 45 Perkins Street, West Newton, Mass., has returned to the Institute.—Carroll R. Benton, 27 Cumberland Street, Boston, Mass., has returned to the Institute as an assistant to Professor Allen in railroad engineering.—Rodway Wheeler, 29 Cumberland Street, Boston, Mass., is situated with the engineering department of the city of Newton.—Gorton James, 33 Buckminster Road, Brookline,



Mass.—Albert J. Beach, 12 Buckingham Street, Somerville, Mass., is with New England Telephone and Telegraph Company, engineering department.—Stewart S. Southgate, 34 Beacon Street, Boston, Mass., is with Little, Brown & Co., publishers.—Sterling Turner, 135 Bridge Street, Boston, Mass., is a partner in Symonds & Turner.—Michael A. Coplan, 97 Hampton Street, Roxbury, is with the Boston Transit Commission.—Lamson K. Cohen, 14 East 13th Street, Wilmington, Del., is with the American Bridge Company, Edgemoor, Del.—Abbott Allen, 230 Tompkins Avenue, New Brighton, N.Y., is with the Otis Elevator Co.—Albert W. Andrews, 110 Jay Street, Albany, N.Y., is with the New York State Water Supply Commission.—J. B. Babcock, 3d, Room 401 Union Station, Toronto, Ont., is with the Grand Trunk Railway as assistant engineer.—Eldon S. Clark, 11 Montague Street, Dorchester, Mass., is back as an assistant in the civil engineering department.—H. N. Cummings, 60 Prospect Street, Hartford, Conn., is with Buck & Sheldon, Hartford, Conn. Cummings spent the summer as transitman on the New York Commission State Boundary Line Survey.—Herbert S. Dornberger, 207 Craig Street, Pittsburg, Pa., is with the American Bridge Company, Ambridge, Pa.—John Lodge, Media, Pa.—George L. Mylchreest, Middletown, Conn.—Earl W. Pilling, Danielson, Conn.—Louis G. Rowe, 4 Blynman Avenue, Gloucester, Mass., is with the United States engineers in the River and Harbor Improvements division.—F. Griffiths Taite, Merion, Montgomery County, Pa.—R. M. Gills, Bristol, Conn., is with J. M. Cabe, railroad contractor.—Lasley Lee, city engineer's office, Sioux City, Ia., with K. C. Gaynor, '09.—R. D. Macafee, 756 South Main Street, Athens, Pa., is superintendent of construction work for the Macafee Concrete Company.—M. A. Lyons, Halifax & Eastern Railway Company, Dartmouth, N.S.—J. M. Fitzwater, 119 Henry Street, Brooklyn, N.Y., is with E. E. Smith Contracting Company, working on the subway.—Barton Wheelwright, Ware Hall, Cambridge, Mass.—C. E. Creecy, South Highlands, Chester, Md., is in the fruit business for himself.—G. E. Miers, 22 Howe Street, Somerville, Mass., is with Silverman Engineering Company, Boston.—Philip W. Taylor, 119 East 3d Street, Mount Carmel, Ill., is with the "Big Four."—John Ahlers, 81 4th Street, Meriden, Conn., is with the H. Wales Lime Company, contractors.—C. H. Lovejoy, 25 Parkman Street, Dorchester, Mass., is in the office of Public School Department of Agriculture, Washington, D.C.

*Course II.*—H. W. Flickinger, 527 West 7th Street, Erie, Pa., is temporarily engaged on the installation of a low-pressure turbine plant at Clairton, Pa., for the Carnegie Steel Company.—Ernest A. Redman, 1204 31st Street, North Birmingham, Ala., is an instructor of mathematics and physics in the Birmingham High School.—Earl S. Russell, 62 Summer Street, Boston, is with

T. William Beal.—H. C. Monson, 45 Hartford Street, Dorchester, is with the Franklin Automobile Company, 671 Boylston Street, Boston, Mass.—Harold Lockett, 71 Randolph Street, Chicago, Ill., is with Orr & Lockett Hardware Company.—Louis O. French, 1216 Grand Avenue, Milwaukee, Wis., is reading law in the firm of Benedict, Morsell & Caldwell, patent attorneys and solicitors.—Walter R. Dray, Morgan Park, Ill.—Frederick A. Dewey, Huntington, Long Island, is with the American Optical Company, located at Southbridge, Mass.—Arthur P. Truette, 130 Dean Road, Brookline, Mass., is back at the Institute as an assistant in the engineering laboratory.—N. Ransohoff, Hartford, Conn., is with Pratt & Whitney.—Henry F. Miller, 2d, 18 Lawrence Street, Wakefield, Mass., has been draughting for the Miller Piano Company.—Ralph Preston, Akron, Ohio, is with the Goodyear Rubber Company. At present Preston is in Edinburgh, having gone on a business trip for the company with which he is connected.—Donald V. Williamson, P.O. Box 297, Ridley Park, Pa., is with the E. I. du Pont de Nemours Powder Company.—Oliver Stevens, 53 Central Street, Lowell, Mass., is in the stock and bond business for himself. On March 15, 1909, Stevens was married to Miss Edna A. Swain, of Brookline, Mass., and on March 6, 1910, Jonathan Tyler Stevens was born.—Roy H. Abbe, 12 Buck Street, Newburyport, Mass., is with the Towle Manufacturing Company of that city.—Raynor H. Allen, 230 Southern Avenue, Mount Auburn, Cincinnati, Ohio. All who know Ray will be interested to know that he has added thirty pounds to his delicate frame.—George E. Batcheller, 51 Elm Avenue, Mount Vernon, N.Y., is treasurer of the Batcheller Rubber Manufacturing Company.—A. G. Batsner, 238 Albany Avenue, Avondale, Cincinnati, Ohio.—Guy W. Bolte, 8 Michigan Street, Chicago, Ill.—William S. Burleigh, M. I. T. "Cage," is at the Institute to complete his studies.—Orrin I. Crommett, 115 Orange Street, Chelsea, Mass., is with the Revere Rubber Company.—Andrew L. Fabens, New Kensington, Pa., is with the Aluminum Company of that city.—Dean Peabody, 27 Crocker Street, Somerville, Mass., is an assistant in the applied mechanics laboratory at the Institute.—Alfred I. Phillips, 705 Land Tile Building, Philadelphia, Pa.—Edgar C. Savage, 117 Richmond Street, Dorchester, has returned to the Institute.—Nathaniel S. Seeley, 44 The Fenway, Boston, Mass., is back at "dear old M. I. T."—M. C. Sherman, 96 Keap Street, Brooklyn, N.Y., is with the American Sugar Refining Company. Sherman was married Oct. 10, 1910.—M. J. Turnbull, 389 Main Street, Hartford, Conn., is with the Coast Artillery Corps, Fort Caswell, N.C., with the constructing quartermaster.—J. K. M. Harrison, San Reno, Central Park, West, N.Y.—C. C. Hield, 1674 Hennepin Avenue, Minneapolis, Minn., is with the Central Warehouse Lumber Company.—E. R. Jackson, 1208 Walnut Street, Philadelphia, Pa., is a mem-

ber of the firm of the Jackson Walker Company, distributors of the Owen Motor Cars for eastern Pennsylvania and southern New Jersey.—S. S. Rodman, 10 Westinghouse Building, Pittsburg, Pa., is with the Library Bureau.—S. E. Briggs, 19 St. Botolph Street, Boston, Mass., is an assistant in the applied laboratory at the Institute.—H. G. Reynolds, 577 Highland Avenue, Malden, Mass., is with the American Pneumatic Service Company.—F. A. Baker, 12 Rill Street, Dorchester, Mass.—M. W. Tilden, 4747 Woodlawn Avenue, Chicago, Ill., is with the Chicago House Wrecking Company.

*Course III.*—Norbert B. Enneking, 2935 Hackberg Street, Cincinnati, Ohio, is in the Central Stock Exchange of that city.—William J. H. Dew, 48 Tennyson Street, Boston, Mass., is rodman for the Boston & Maine Railway.—H. Robert Perry, M. I. T. mining department, is an assistant in the mining laboratory.—Jerome Scheuer, 30 Kilby Street, Boston, Mass., is an insurance broker. Scheuer was married Aug. 1, 1910.—B. S. Wohlgemuth, mining department, M. I. T., Boston, Mass., is an assistant to Professor Hofman.—C. C. Webb, 67 Dana Street, Cambridge, Mass., is with the Steptoe Valley Mining and Smelting Company.—R. S. Bartlett, 610 Fitzsimmons Building, Pittsburg, Pa., is with F. G. Clapp, consulting geological engineer.—F. W. Osborn, 251 West Newton Street, Boston, is back at the Institute.—T. S. Killon, 130 Russell Street, Malden, Mass., is back at the Institute.—Henry M. Schleicher, 62 Forest Street, Roxbury, Mass., is with the Huff Electrostatic Separator Company.

*Course IV.*—Bertholf M. Pettit, 454 Prairie Avenue, Kenosha, Wis., is with Pond & Pond, of Chicago.—Alice Stanwood Willoughby, 225 School Street, Watertown, Mass., is with Professor J. Warren Lytle, of Pittsburg, in charge of the art department.—Robert W. Boyle, 8 Grand Avenue, Glens Falls, N.Y., is with the Glens Falls Portland Cement Company. Boyle was married Feb. 28, 1907.—Charles C. Clash, 25 St. James Avenue, is taking graduate work at the Institute.—Philip W. Burnham, New Rector Hotel, Times Square, New York, is with D. H. Burnham & Co., architects. Burnham is assistant to the supervisor of construction of the new Rector Hotel.—Kenneth E. Carpenter, 66 Westland Avenue, Boston, Mass., is with Codman & Despradelle, architects.—H. S. Cleverdon, 234 Newbury Street, Boston, Mass., is with Shepley, Rutan & Coolidge. Cleverdon is working on the steel design of the new Boston Young Men's Christian Association.—Daniel W. Gibbs, 22 Summer Street, Waltham, Mass., is with S. W. Mead, architect.—John Henry Scarff, 1706 Charles Street, Baltimore, Md., is taking graduate work at the Institute.—John W. Gray, Salem, Mass., is with Codman & Despradelle, architects.—J. W. Northrop, Jr., 60 West Rutland Square, Boston, is with Little & Brown, architects.—John E. Kelley, 2 Winter Place, Malden, Mass., is with Perkins, architect.—H. E. Fowler,

83 Newbury Street, Boston, Mass., is an instructor in architecture at the Institute.—R. I. Hulsizer, 918 F Street, N.W., Washington, D.C., is with Byrnes, Townsend & Brickenstine, patent attorneys.

*Course V.*—Ralph E. Gegenheimer, 46 Walker Building, M. I. T., is back at the Institute as an assistant in analytical chemistry.—B. F. Courtney, 32 Dell Avenue, Hyde Park, Mass., is back at the Institute to complete his studies.—R. B. Fisher, 11 Washington Street, Gloucester, Mass., is with the Russia Cement Company, Gloucester.—R. L. Dodge, 38 South Hamilton, Mass., is with the Bell Telephone Company, Philadelphia, Pa.—Willard F. Rockwell, Box 123, Ayer, Mass., is with Haynes Piper Company, chemist; married.—G. R. Lord, 2 Abbott Street, Nashua, N.H., is with the Nashua Card, Gummed and Coated Paper Company; married.—M. K. Sweet, 11 Felton Street, Hudson, Mass., is with Apsley Rubber Company.—Lewis W. Waters, 19 Concord Street, Boston, Mass., is back as an assistant at the Institute.—Luther Davis, care of Bowler Brothers, Worcester, Mass., is a chemist for Bowler Brothers, brewers. Davis was married February, 1910.—Walter W. Scofield, 1418 Warton Street, Philadelphia, Pa., is with the India Refining Company.

*Course VI.*—G. T. Southgate, 1502 Commerce Avenue, is with Ford, Bacon & Davis, engineers.—H. H. Whithed, 33 Linden Street, Arlington, Mass., is back at the Institute to complete his studies.—H. S. Jenness, 84 State Street, Boston, is with the Boston & Northern Street Railway Company.—F. H. Hill, Canton, Mass., is with the Asbestos Protected Metal Company.—F. L. Cobb, 56 Mount Everett Street, Cambridge, Mass., is back at the Institute to complete his studies.—E. O. Scriven, Beacon Chambers, Boston, Mass., is this year a candidate for the degree of Master of Science.—L. P. Tenis, 35 St. Botolph Street, Boston, Mass., is at the Institute.—W. S. Rodman, Westland Street, University of Virginia, is a professor of electrical engineering at that university.—S. L. Henderson, 501 Pitt Street, Wilksburg, Pa., is with the Westinghouse Electric and Manufacturing Company.—G. C. Conner, care of National Club, 1910 East 55th Street, Cleveland, Ohio, is with the National Electric Lamp Association.—F. S. Arend, 67 Milk Street, Boston, Mass., with Frank A. Arend & Co., lumber; was married October, 1909.—G. B. Cumings, 6 Elmwood Avenue, Winchester, Mass., is back at the Institute to complete his studies.—B. Allison, 1517 South 5th Street, Minneapolis, Minn., is with the Minneapolis General Electric Company.—F. R. Lufkin, 382 Washington Street, Brookline, Mass., is an assistant in the electrical department at the Institute.—F. K. Castelhum, 2140 South Simpson Street, West Philadelphia, Pa., is with the Pennsylvania Bell Telephone.—L. N. Downs, Jr., 33 Clarendon Street, Boston, Mass., is an assistant in the electrical department at the Institute.—C. J. Sit-



tinger, 59 Delle Avenue, Roxbury, Mass., is back at the Institute to complete his studies.—J. Foster Cole, 456 Broadway, South Boston, Mass., is at the Institute.—Burgess Darron, 22 Sargent Street, Upham's Corner, Mass., is back at the Institute to complete his studies.—R. M. George, 146 Kennedy Street, Bradford, Pa., is an assistant in the electrical department at the Institute.—H. E. Beebe, Ipswich, S.D., is with M. P. Beebe as private secretary.—G. W. McRae, engineering department American Telephone and Telegraph Company, 15 Dey Street, New York city.—C. H. Shaw, 4411 Hough Avenue, Cleveland, Ohio, is with the National Electric Lamp Association.—F. B. Silsbee, 9 East Haverhill Street, Lawrence, Mass., is a candidate for the Master's degree at the Institute.

*Course VII.*—F. H. Stover, Room 140, State House, Boston, Mass., is in the engineering department of the State Board of Health.—H. L. Lang, 33 Fairview Street, Roslindale, Mass., is an assistant in the freshman laboratory in chemistry and also a candidate for a Master's degree in biology.—William F. Wells, State Bacteriological Laboratory, Grand Forks, N.D.

*Course X.*—G. P. Lunt, 215 Delaware Avenue, West Pittston, Pa., is in the chemical engineering department of the Wyoming Chemical Company.—H. E. Stump, 179 Marcy Avenue, Brooklyn, N.Y., is with the American Sugar Refining Company.—Walter Spaans, 108 Chestnut Street, Brookline, Mass., is an assistant in organic chemistry.—R. O. Fernandez, 33 Robinson Street, Somerville, Mass., is back at the Institute as an assistant to Mr. W. T. Hall.—R. S. Bicknell, 91 Esmond Street, Grove Hall, Boston, Mass.—J. M. Bierer, Garrison Hall, Boston, Mass., is an assistant at the Institute.—Dudley Clapp, 1421 Arch Street, Philadelphia, Pa., is with the Spreckels Sugar Refining Company.—Charles Almy, Jr., 147 Brattle Street, Cambridge, is in the research laboratory of applied chemistry at the Institute.—C. S. Redfield, 393 Broadway, Cambridge, Mass., is with the Hood Rubber Company. Redfield became engaged to Miss Barbara Goodwin Rice, of Cambridge, Sept. 16, 1910.

*Course XI.*—F. M. Arnolt, Tuckahoe, Westchester Co., N.Y., is with the N.Y. State Department of Health.—J. H. O'Neill, West 77th Street, New York city, is in the American Museum of Natural History.—W. D. Richardson, 649 East 23d Street, Brooklyn, N.Y., is back at the Institute to complete his studies.—E. H. Barber, 17 Maple Avenue, Newton, Mass., is with F. T. Mayne, of West Newton.—L. G. Rice, 17 Greenleaf Street, Quincy, Mass., is with the city engineer of Beverly, Mass.—R. W. Horne, 209 Salem Street, Malden, Mass., is an assistant in civil engineering department.—Edward Stuart, Hotel Threadgill, Oklahoma city, is in the real estate business.—G. F. Maglott, 3749 Lake Avenue, Chicago, Ill., is with Langdon Pearse, engineer.—Henry Schreiber, Jr., 13 Bishop Street, Jamaica Plain, Mass.,



is back at the Institute to complete his studies.—C. N. White, 266 Albion Street, Wakefield, Mass., is at the Institute to complete his studies.

*Course XIII.*—G. S. Thomas, 506 D Street, Sparrows Point, Md., is in the marine department of the Maryland Steel Company.—R. W. Torry, 88 Centre Street, Brookline, Mass., after two years in business, is back at the Institute to complete his studies.—V. T. H. Bien, 3008 West Avenue, Newport News, Va., is with the Newport News S. & D. D. Company.—R. L. Pope, Brookline, Mass., is with the Hide and Leather Company of Brockton, Mass.—M. P. Anderson, 111 Cherry Street, Seattle, Wash., is vice-president and assistant manager of the Anderson Supply Company.—G. G. Holbrook, Technology Chambers, Boston, Mass., is an assistant in the naval architectural department.—L. B. Chapman, M. I. T., is an assistant in the marine engineering department.—C. A. Schellens, 53 Trowbridge Street, Cambridge, Mass., is taking graduate work at the Institute.—A. B. Court, XIII.A, Navy Yard, Norfolk, Va., is in the construction corps, United States Navy.

*Course XIV.*—M. R. Thompson, 7 Locust Avenue, East Lexington, Mass., is taking a five-year course at the Institute.—J. P. Marfield, 9 Chester Street, Cambridge, Mass., is an assistant under Professor Goodwin.